

The Ohio State University Bulletin

VOLUME XXIV

JANUARY 30, 1920

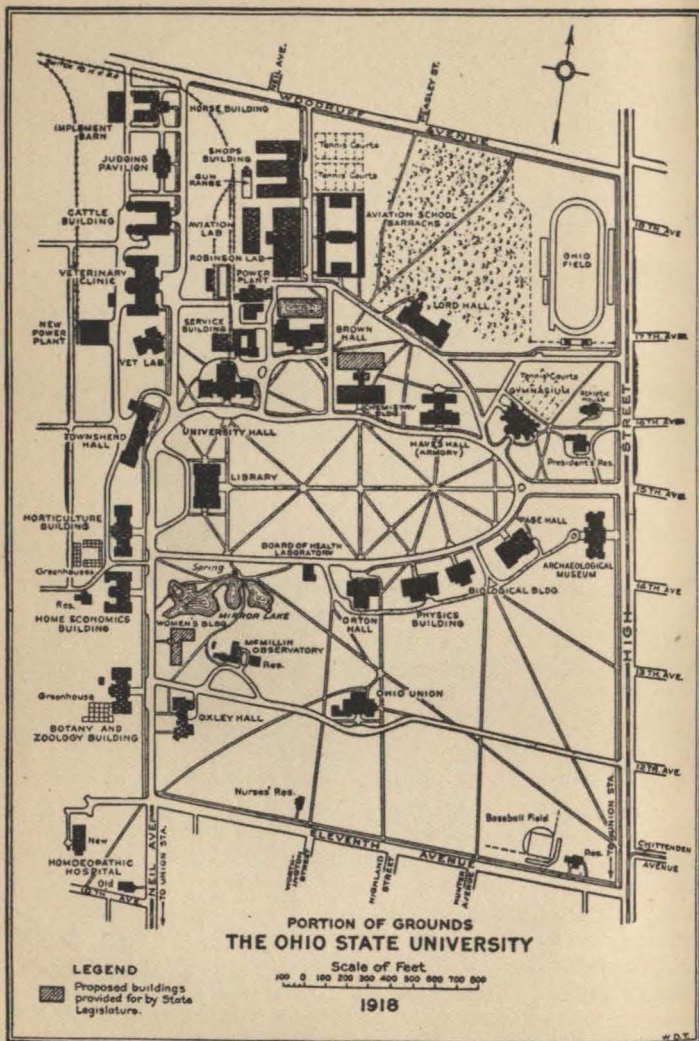
NUMBER 16

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE

1920-1921

PUBLISHED BY THE UNIVERSITY AT COLUMBUS

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UNIVERSITY CALENDAR

1920

Summer Session, Monday, June 21 to Friday, August 13.

Entrance examinations, Tuesday to Saturday, 8 A. M., June 22 to 26.

Entrance examinations, Tuesday to Saturday, 8 A. M., September 7 to 11.

Registration Day—First Semester—Tuesday, September 14.

President's Annual Address, Wednesday, September 15, 11 a. m.

Latest date for registration of candidates for a degree at the Commencement in June, 1921, October 1.

Registration Day, Short Courses in Agriculture—First Term—Tuesday, October 19.

Mid-semester reports to the Deans concerning delinquent students, Wednesday, November 10.

Thanksgiving recess begins November 24, 1 P. M., and ends November 30, 8 A. M.

Christmas recess begins Friday, December 17, 6 P. M.

1921

Christmas recess ends Tuesday, January 4, 8 A. M.

Registration Day, Short Courses in Agriculture—Second Term—Tuesday, January 4.

Final examinations, Wednesday, January 26, to Thursday, February 3.

Farmers' Week, Monday, January 31 to Friday, February 4.

First semester ends Thursday, February 3, 6 P. M.

SECOND SEMESTER

Registration Day—Second Semester—Tuesday, February 8.

University Day, Tuesday, February 22.

Close of Second Term, Short Courses in Agriculture, Friday, March 18.

Easter recess, Thursday noon, March 24 to Tuesday, March 29, 8 A. M.

Mid-semester reports to the Deans, Wednesday, April 13.

Competitive Drill—Cadet Regiment—Saturday, May 28.

Memorial Day, Monday, May 30.

Final examinations, Wednesday, June 1, to Thursday, June 9.

Commencement, Tuesday, June 14.

Summer Session, Monday, June 20 to Friday, August 12.

Entrance examinations, Tuesday, June 21, to Saturday, June 25, 8 A. M.

CALENDAR FOR 1920

Each delivery is 100 mg.

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CALENDAR FOR 1921

1994, 1995, 1996, 1997, 1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 26

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Residence: 1956 Iuka Ave.—5835

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Dean of Women.....ELISABETH CONRAD

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Residence: 1981 Indianola Ave.—11252

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Dean.....JOSEPH V. DENNEY

Office: 200 University Hall—99341
Residence: 230 W. Tenth Ave.—16322

Secretary.....GEORGE WASHBURN

Office: 200 University Hall—99341
Residence: 65 W. Eleventh Ave.—16745

THE OHIO STATE UNIVERSITY

The Ohio State University is a part of the educational facilities maintained by the State and is located in the northern part of the city of Columbus.

ORGANIZATION

For convenience of administration, the departments of the University are grouped into organizations called colleges. The Ohio State University comprises a graduate school and eleven colleges, each under the administration of a Dean and College Faculty as follows:

Graduate School	College of Education
College of Agriculture	College of Engineering
College of Arts, Philosophy and Science	College of Homoeopathic Medicine
College of Commerce and Journalism	College of Law
College of Dentistry	College of Medicine
	College of Pharmacy
	College of Veterinary Medicine

SUMMER SESSION

In addition to the above, there is a Summer Session under the supervision of a Director and governing committee for the administration of the regular University courses offered in the summer.

This bulletin is devoted exclusively to the work of the College of Arts, Philosophy and Science for the academic year, 1920-21.

(NOTE—The University publishes a bulletin descriptive of each college. Copies may be obtained by addressing the Secretary of the Entrance Board, Ohio State University, Columbus, Ohio, and stating the college in which the writer is interested.)

COLLEGE OF ARTS, PHILOSOPHY AND SCIENCE

The College of Arts, Philosophy and Science comprises those curricula that are designed to furnish a liberal education in the languages and literatures, the sciences, mathematics, philosophy, history, politics, economics and sociology. The first two years of work in this college are required for admission to the Colleges of Law, Medicine, and Commerce and Journalism.

DEPARTMENTS

The College of Arts, Philosophy and Science includes work in the following departments: American History, Anatomy, Astronomy, Bacteriology, Botany, Chemistry, Economics and Sociology, English, European History, Geology, German, Greek, Journalism, Latin, Mathematics, Military Science and Tactics, Mineralogy, Philosophy, Physical Education, Physics, Physiology, Political Science, Psychology, Romance Languages, Zoology and Entomology.

GRADUATE COURSES

The graduate instruction offered by the departments represented in this bulletin is given in the Graduate School. A special bulletin describing the organization, admission requirements, and work of the Graduate School may be obtained on application to the Secretary of the Entrance Board.

THE SUMMER SESSION

The University maintains a summer session for eight weeks, in which most of the courses offered are credited by this College. Two summer sessions are considered the equivalent of one semester, and four summer sessions the equivalent of the year.

THE OHIO STATE UNIVERSITY**THE LAKE LABORATORY**

The University maintains a Lake Laboratory at Put-in-Bay during the summer vacation, which is designed to provide opportunity for the investigation of the biology of the lake region, and for giving certain courses of instruction in the departments of Botany, and Zoology and Entomology. For further information write for a special bulletin, which may be obtained from the Secretary of the Entrance Board.

RESIDENCE REQUIREMENT

No undergraduate will be admitted to candidacy for a degree at any Commencement who has not done the last year of work required for the degree in residence in this college. No student will be registered in such candidacy later than the first day of October.

GENERAL INFORMATION

RESERVE OFFICERS' TRAINING CORPS

Under the law of Congress establishing the land grant colleges, it is required that instruction in Military Science and Tactics be included in the curricula. This instruction is given under the Defense Act of June 3, 1916, establishing in the University the Reserve Officers' Training Corps. Under normal conditions, six commissioned officers and eleven non-commissioned officers of the regular army are detailed by the War Department to take charge of this department. The Board of Trustees has directed that all male students, special and regular, except those registered in the Colleges of Law, Medicine, Homoeopathic Medicine, and Dentistry, shall complete two years of military service unless especially excused by the Military and Gymnasium Board.

Foreign students are not exempt from military training, nor is self-support an adequate reason for excusing a student from the requirement in Military Science.

The Reserve Officers' Training Corps is organized as a brigade consisting of two regiments of infantry, each composed of three battalions of four companies each, and one regiment of field artillery, composed of two battalions of three batteries each, a band of sixty pieces, and a trumpet corps. There are two companies of men from the students in the Three-Year Course in Agriculture. The total number of men under arms averages about three thousand.

The course of instruction is both practical and theoretical, and divided into basic and advanced courses in both infantry and field artillery. One-half of the time is devoted to theoretical work in the class-room, and one-half of the time to practical work in the field. The basic courses are required of all freshmen and sophomores. The advanced courses are elective for juniors and seniors. Students completing the advanced course when recommended by the Commandant and the President of the University, are granted a commission as Second Lieutenant

in the Officers' Reserve Corps by appointment from the President of the United States. No student is eligible for the advanced course until he has satisfactorily completed the basic course or its equivalent.

Uniforms and equipment are furnished by the War Department. Students who are taking advanced courses in Military Science also receive forty cents per day as commutation of rations in addition to their uniforms.

The appointment of cadet officers is made usually from those who have served in the Military Department at least one year and as a reward for excellence in their work. No compensation is paid to officers who are completing their first two years of service in the Military Department, the only exception being those who have had the equivalent of the required two years in service elsewhere. The compensation awarded at the end of each year of satisfactory service is thirty dollars for lieutenants, forty dollars for captains, and proportional sums for officers of higher rank.

Service in the band is credited as military service, the positions being assigned after competitive try-out. Members of the band who have completed two years of service in the Military Department or its equivalent are paid at the rate of twenty dollars per year and receive instruction during the four winter months from a competent band master.

GRADUATE ASSISTANTSHIPS

To encourage graduates of this University, and of other similar and approved institutions, especially those in Ohio, to continue their studies and to undertake advanced work leading to the higher degrees, the University has established assistantships in several departments. These demand from one-quarter to one-half of the time of the student for laboratory and other similar assistance—as far as possible along the line of his major subject. The remainder of his time is given to graduate work. The assistantships pay from \$250 to \$500 for the academic year and in addition all fees are remitted, except the matriculation fee and a diploma fee for those students who receive degrees. Appointments to all assistantships are made annually in April or May for the following year. Students desiring such appointments can obtain application blanks by ad-

dressings the Dean of the Graduate School. Applications must be filed not later than March 1st.

SCHOLARSHIPS AND FELLOWSHIPS

In addition to the graduate assistantships, a limited number of scholarships and fellowships have also been established. The scholarships are open to students having a baccalaureate degree from an approved institution, and have a value of \$250 with exemption from all fixed fees, except the matriculation fee. The fellowships on the other hand are open only to students who have at least the Master's degree or its equivalent, and have a value of \$500 with like exemption from all fixed fees, except the matriculation fee. Scholars and fellows are selected on a basis of merit and must devote all their time to graduate work. Candidates for these positions should file their applications not later than March 1st. Application blanks may be obtained by addressing the Dean of the Graduate School.

THE APPOINTMENT COMMITTEE

In order to serve the schools of the State, the University Faculty has provided a committee, one of the duties of which is to assist graduates of the University to teaching positions for which they are best fitted. Any student of the University intending to teach is invited to enroll his name with the committee on a blank provided for that purpose by the committee. Graduates of the University who are already engaged in teaching are also cordially invited to correspond with the Appointment Committee with a view to bettering their positions. Correspondence is invited from Boards of Education and from Superintendents and Principals of Schools in need of teachers. No fee is charged for the services of the committee.

THE BRYAN PRIZE

Through the generosity of Hon. William J. Bryan an annual prize of twenty-five dollars is offered for the best essay on the principles underlying the form of government of the United States. Competition for this prize is open to all students of the University. For further information, make inquiry of the head of the department of American History.

FEES AND EXPENSES

GENERAL CHARGES

All University fees must be paid at the opening of each semester as a condition of admission to classes. Registration is not complete until all fees have been paid. No student will have any privileges in the classes or laboratories until all fees and deposits are paid.

Since all fees are due and payable as a part of the student's registration, no person should come to the University for registration without money sufficient to cover all of his fees and deposits.

Marticulation Fee—Every student upon his first admission to the University is required to pay a martication fee of \$10.00. This fee is paid but once, and is in addition to other University fees and entitles the student to the privileges of membership in the University. (Effective June 1, 1920.)

Non-Resident Fee—Every undergraduate student who is not a legal resident of the State of Ohio is required to pay a non-resident fee of \$25.00 each semester of his residence in the University in addition to other University fees. The burden of registering under proper residence is placed upon the student. If there is any possible question of his right to legal residence the matter should be brought to the attention of the Registrar and passed upon, previous to registration or the payment of fees. Any student who registers improperly under this rule shall be required to pay not only the non-resident fee but shall be assessed a penalty of \$10.00. (Effective June 1, 1920.)

No person shall be considered eligible to register in the University as a resident of the State of Ohio unless he has resided in the state twelve months next preceding the date of his proposed enrollment; and no person shall be considered to have gained a residence in this State for the purpose of registering in the University while he is a student in the University.

The residence of minors shall follow that of the legal guardian.

The residence of wives shall follow that of husbands.

Aliens who have taken out first citizenship papers and who have been residents of Ohio for twelve months next preceding the date of their enrollment in the University, shall be regarded as eligible for registration as residents of Ohio.

Incidental Fee—The fee for all students is \$15.00 a semester.

Former students who do not pay this fee until the third day of the first semester, and the second day of the second semester, must pay one dollar additional. For each day of delinquency thereafter fifty cents is added.

Laboratory Deposit—Students are required to pay for all materials consumed in laboratory work. To meet the cost of these materials a deposit ranging from two to fifteen dollars for each course requiring such supplies is made at the Bursar's office before the student can enter the laboratory. All laboratory supplies are sold at the General Store Room, Chemistry Hall, to students at cost to the University, and charged against the deposit. Any unused part of the deposit is refunded at the end of the semester.

OTHER EXPENSES

Locker Fee—The gymnasium is free to all students, but those desiring to use a locker are charged a fee of two dollars a semester, which includes the rental of towels.

The Ohio Union—A fee of one dollar a semester is paid by all male students at registration. This entitles the student to all the privileges of the Union, consistent with the Constitution and House Rules governing it.

Graduation Fee—A fee of five dollars, to cover expenses of graduation and diploma, is required of each person receiving one of the ordinary degrees from the University, and this fee must be paid on or before the last Friday preceding Commencement. A like fee of ten dollars is charged each person receiving one of the higher graduate degrees.

Rooms and Board—Furnished rooms can be obtained at prices varying from ten to fifteen dollars per month. Board at the restaurants and boarding clubs near the University costs from six and one-half to eight dollars per week. The Ohio Union

Commons offers board at reasonable rates. Board with furnished rooms can be obtained in private families at rates varying around ten dollars per week.

Textbooks—Students should not purchase textbooks until they are advised by the instructors of their respective classes.

EXPENSES PER YEAR

One of the most perplexing questions that confronts a prospective student is what the course is going to cost him a year.

In order to furnish information, we have listed below an estimate of the average payments required by the University for the Freshman year in the College of Arts, Philosophy and Science, and have estimated the cost for room and boarding at a safe price. These two items are sometimes reduced slightly where two students occupy the same room and where boarding clubs are economically managed. Fees to the University are paid one-half at the beginning of each semester.

Matriculation fee	\$10 00
Incidental fee	30 00
Ohio Union.....	2 00
Gymnasium locker.....	4 00
Deposits (if Chemistry is elected).....	30 00
Books	30 00
Board—(36 weeks at \$8.00 per week).....	288 00
Room rent, at \$15.00 per month.....	135 00
General expenses.....	100 00
	<hr/>
	\$629 00

The item of general expenses is always subject to the personal habits of the individual, and varies according to the degree of economy exercised.

Note—In order to meet all the necessary expenses of registration, books, and other expenditures incident to securing a room and board, a student should come prepared to expend from \$75.00 to \$100.00 during the first ten days of a semester. After that period his board and room rent will constitute the major part of his expenses.

THE E. I. du PONT de NEMOURS FELLOWSHIP

Through the generosity of E. I. du Pont de Nemours & Company of Wilmington, Delaware, and in recognition of the service of colleges and universities in training chemists for the emergency of the War, fellowships in chemistry have been established in a number of institutions, one of which is available at the Ohio State University.

The holder of the fellowship must be prepared to engage at once in active research upon a problem distinctly chemical in character, there being no further limitations upon the fellowship. The stipend is \$750 per annum, and it is expected that at the conclusion of the year the holder of the fellowship will be able to present his research as a thesis for the degree of Doctor of Philosophy. The donors have not assumed obligation to continue the fellowship beyond the current year, but it is hoped that it will be renewed.

THE RHODES SCHOLARSHIPS

Men who have completed their sophomore year at the Ohio State University are eligible to compete for the Cecil Rhodes Scholarships, tenable for three years at Oxford University, England, with a stipend of three hundred pounds each year. These scholarships are awarded on the combined basis of character, scholarship, athletics, and leadership in extra-curriculum activities. Further information may be obtained from any member of the Rhodes Scholarship Committee of Selection for Ohio: Chairman, President W. O. Thompson, Ohio State University, Columbus, Ohio; Professor B. E. Schmitt, Western Reserve University, Cleveland, Ohio; Cary R. Alburn, Esq., Attorney, Garfield Bank Building, Cleveland, Ohio; Secretary, Professor Leigh Alexander, Oberlin College, Oberlin, Ohio.

WOMEN STUDENTS

As far as possible, women students should make arrangements for room and board in advance. An effort will be made to secure suitable accommodations in private residences for such as cannot be accommodated in Oxley Hall. Prospective women students should address Miss Elisabeth Conrad, Dean of Women, Ohio State University, Columbus, Ohio.

ADMISSION

The admission of students is in charge of the University Entrance Board, which determines the credits that shall be issued on all entrance examinations and certificates, and furnishes all desired information to applicants. Correspondence relating to admission should be addressed to the Entrance Board, Ohio State University, Columbus, Ohio.

ADMISSION TO CURRICULA LEADING TO A DEGREE

In compliance with the laws of the state of Ohio, the holder of a diploma from a first-grade high school in the state, will be admitted to the College of Arts, Philosophy and Science upon presentation of his high school certificate.

Other applicants may be admitted without examination on presentation of properly indorsed certificates covering fifteen units and graduation from such secondary schools as have been accredited or recognized by the University, from approved normal schools, and from the State Board of School Examiners.

For admission by examination or by certificate see the Bulletin of General Information.

DISTRIBUTION OF UNITS

In order to form a broad foundation for the course in Liberal Arts the following distribution of units in the high school is strongly recommended: three in English; one in history; one in algebra and one in geometry; one in physics or chemistry; one in biological science; four in foreign language; and three additional in these or other studies. If the distribution of units does not meet the above recommendation the student will be required to carry courses in the University to make up any deficiency and this may delay his graduation.

SPECIAL STUDENTS OF MATURE YEARS

A person of mature years who is unable to meet the entrance requirements in all respects, under certain circumstances may be permitted to matriculate for specified courses for which he can demonstrate adequate qualifications. An applicant under 21 years of age will not be considered. Inquiry concerning such admission should be addressed to the Entrance Board, and, to receive consideration must reach the Board not less than ten days in advance of the opening of the semester.

REQUIREMENTS FOR GRADUATION

THE GROUP ELECTIVE SYSTEM

The work of the College of Arts, Philosophy and Science is organized on the group elective system. A part of every student's curriculum is prescribed by the regulations given below. Each student is required to lay sufficiently broad foundations in English, other languages, the sciences, history, or economics, and in mathematics, philosophy, or psychology. The remainder of the student's work is elective.

On satisfactory completion of 120 semester hours in addition to the military drill and physical education of the first two years, the student will be recommended for the degree of Bachelor of Arts, under the regulations prescribed below.

The departments in which credit may be obtained are arranged in the following four groups:

(A) LANGUAGES AND LITERATURES

English, German, Greek Language and Literature, Latin Language and Literature, Romance Languages and Literatures.

(B) NATURAL SCIENCES

Anatomy, Astronomy, Bacteriology, Botany, Chemistry, Geology, Mineralogy, Physics, Physiology, Zoology and Entomology.

(C) SOCIAL SCIENCES

American History, Economics and Sociology, European History, Political Science.

(D) MATHEMATICS—PHILOSOPHY

Mathematics, Philosophy, Psychology.

COURSES OPEN TO FRESHMEN

The following are the only courses open to Freshmen:

English 101-104, 2 credit hours; English 133, 141, 142, 145, or 146, 3 credit hours.

French 101-102, 4 credit hours; French 103-104 (for students who enter with two units in French), 4 credit hours; French 107-110 (for students who enter with four units in French), 2, 3 or 5 credit hours.

German 101-102, 4 credit hours; German 103-104 (for students who enter with two units in German), 4 credit hours; German 107-108 (for students who enter with four units in German), 4 credit hours.

Greek 101-102, 4 credit hours; Greek 125-126 (for students who enter with two units in Greek), 4 credit hours.

Latin 101-102 (for students who enter with three or four units in Latin), 4 credit hours.

Latin 147-148 (for students who enter with no Latin).

Latin 149-150 (for students who enter with two units in Latin).

Spanish 101-102, 4 credit hours; Spanish 103-104 (for students who enter with two units in Spanish), 4 credit hours.

Botany 101-102, 3 credit hours.

Zoology 101-102, 3 credit hours.

Astronomy 101-102, 3 credit hours.

Chemistry 105-106, 4 credit hours; Chemistry 109-110 (for students who enter with one unit in Chemistry), 4 credit hours.

Geology 101-102, 3 credit hours.

Physics 103-104, 4 credit hours; Physics 105-106 (for students who enter with one unit in physics), 4 credit hours.

American History 101-102, 3 credit hours.

European History 101-102, 3 credit hours.

Economics 132-133, 3 credit hours.

Mathematics 121-122, 3 credit hours; Mathematics 131-132, 5 credit hours.

Philosophy 101-102, 3 credit hours.

Psychology 101-102 or 103-104, 3 credit hours.

Art 119, 131, 132, 141.

Drill; Physical Education.

REGULATIONS

1. Military Drill is required of all men during the first and second years.

Physical Education is prescribed for all men during the first year and for all women during the first and second years.

2. Group Requirements:

(A) Languages and Literatures:

(1) English composition, four hours, must be

taken by all students. English literature, three hours, must also be taken by those students who have not credit for three entrance units in English. (2) In high school and college together the student must secure credit in at least two languages other than English. For those who enter with six units in languages other than English, the college requirement is eight hours; for those with five units, twelve hours; four units, sixteen hours; three units, twenty hours; two units, twenty-four hours; one unit, twenty-eight hours; no units, thirty-two hours. The student may not offer less than a year's work in any foreign language.

(B) Natural Science:

- (1) Every student is required to secure credit for at least six semester hours in one biological science (botany, anatomy, physiology, zoology, or bacteriology); but students who enter with one unit in biological science are excused from this requirement.
- (2) Every student is required to secure credit for at least six semester hours in non-biological science (astronomy, chemistry, geology, mineralogy, or physics); students who enter with neither chemistry nor physics must take a one-year course in chemistry or physics; and students who enter with one unit in chemistry and one unit in physics are excused from the non-biological science requirement.

The science requirement may be postponed one year by students electing Art as a major study or making the classical languages the center of their education.

(C) Social Sciences:

Every student is required to secure credit for at least twelve semester hours in the Social Science group, of which at least six semester hours shall be in European or American history or in economic geography; but for students who offer one or more units of history for entrance the requirement is six semester hours in one of the social sciences.

(D) Mathematics, Philosophy, Psychology:

Every student must secure credit either in high school or in college for algebra through quadratics, and for plane geometry. He must in addition secure credit in college for six semester hours in mathematics, or philosophy, or psychology.

2. Maxima and Minima: At least 36 hours of the 120 hours required for the degree must be in some one of the groups mentioned above, and at least 18 in some other one of the groups mentioned above. In no one of the groups may more than 60 hours be credited for the degree, exclusive of the requirements noted above.

4. Advanced Courses: At least 36 hours of the 120 hours required for the degree must be in courses not open to freshmen. (Courses open to freshmen if elected by seniors, give credit diminished by one hour.)

5. Amount of Work: Each year's work must consist of 15 or 16 hours' work each semester. On petition to the Executive Committee a student who shows exceptional proficiency may take from one to three extra hours, but in no case will more than 18 hours be permitted. No extra hours will be granted to the first year student or to a student having conditions outstanding.

6. Work in Other Colleges: Any student, after completing sixty hours of work in the College of Arts, Philosophy and Science, may, upon petition, elect not to exceed five hours a semester during the remaining two years from work offered in any other college, except the Colleges of Law, Medicine, Homoeopathic Medicine and Dentistry.

7. Reserve Officers' Training Corps: For students who complete the curriculum of the Reserve Officers' Training Corps, as defined in General Orders No. 49 (or amendments thereto) of the War Department, the total number of hours required for the degree of Bachelor of Arts is 112 (instead of 120) semester hours, in addition to the work in military training and physical education. Of this total, the maximum that may be taken in other colleges as authorized in the preceding paragraph is 12 hours.

RULES GOVERNING ELECTIONS

Each student enrolled in the College of Arts, Philosophy and Science is requested to file at the Registrar's office by June 1st of each year a complete statement of the courses he wishes to enter the following year. Blanks for this purpose may be obtained of the Registrar.

The following rules have been adopted by the Faculty and Board of Trustees governing the filing of election-cards and changes in these cards:

Students in the Colleges of Agriculture, Arts, Philosophy and Science, and Education who were in residence the previous year, must file their election cards before September 1st. Election cards will be accepted from such students after September 1st only upon the payment of \$1.00.

Changes, at the request of the student, will not be made in these cards after September 1st, except on the payment of \$1.00 for each change.

These fees may be remitted, in exceptional cases, by the Executive Committee of the college.

COMBINATION CURRICULA

ARTS-LAW

Students desiring the degree of Bachelor of Arts in the College of Arts, Philosophy and Science, and the degree of Bachelor of Laws in the College of Law, may, by complying with the regulations below, obtain the two degrees in six years.

On satisfactory completion of the three years' work, comprising ninety-three semester hours, in the College of Arts, Philosophy and Science, and the first year in the College of Law of this University, under the usual regulations governing work in each of the two colleges (except as indicated below), the student will be recommended for the degree of Bachelor of Arts.

All regulations applying to students in the College of Arts, Philosophy and Science apply in the combined Arts-Law curriculum except as modified by the following statements:

1. No student is eligible for the combined Arts-Law curriculum who has not been a student in the College of Arts, Philosophy and Science of this University at least one full year. Students entering the College of Arts, Philosophy and Science with advanced standing will be held to the requirements as strictly as other students.

2. At least thirty-three of the ninety-three semester hours of Arts College subjects required for the degree in Arts must be in one group (preferably the Social Science group), and eighteen in some other one group. In no one of the groups may more than forty hours be credited for the degree, exclusive of the requirements made in Regulations 2, 3, 4, and 5.

3. At least thirty-three of the ninety-three hours of Arts College subjects required for the degree must be in courses not open to freshmen.

4. In order to have the first year of Law counted towards the Arts degree, the student must have maintained a uniform record of good scholarship in the College of Arts, Philosophy and Science, and have completed the entire requisite ninety-three hours of work in that college before the work in the College of Law is entered upon. He must also maintain good scholarship in the College of Law. The question of the applicant's eligibility to the combined course will be determined by the Executive Committee of the Arts College.

The work of all students taking studies in the two colleges at the same time is under the jurisdiction of a joint committee, consisting of the Dean and Secretary of the College of Arts, Philosophy and Science, and of the College of Law.

ARTS-BUSINESS ADMINISTRATION

TWO DEGREES

Students who have received credit for one hundred and fifty-four hours exclusive of the requirement in military drill and physical education, and who have met all the requirements of the College of Arts, Philosophy and Science for the degree of Bachelor of Arts, and who have met all the requirements of the College of Commerce and Journalism for the degree of Bachelor of Science, will be granted both degrees. Applicants for both degrees must register in both colleges.

ARTS-EDUCATION

TWO DEGREES

Students who have received credit for one hundred and forty hours exclusive of the requirement in military drill and physical education, and who have met all the requirements of the College of Arts, Philosophy and Science for the degree, Bachelor of Arts, and who have met all the requirements of the General Curriculum in the College of Education for the degree, Bachelor of Science in Education, will be granted both degrees. Applicants for both degrees must register in both colleges and have their elections approved by the Dean or Secretary of each college.

ARTS-ENGINEERING

The entrance requirements for the combined curriculum are the same as for the College of Arts, Philosophy and Science, except that one unit of physics is required.

A candidate for the degree of Bachelor of Arts, while registered in the College of Arts, Philosophy and Science, may also register in the College of Engineering, provided that at the time of seeking such registration in the College of Engineering he has ninety semester hours to his credit in the College of Arts, Philosophy and Science, exclusive of the credit hours in military drill and physical education, and including the following subjects:

Mathematics 131, 132, 141, 142, 20 hours; Chemistry 105 and 106, or 109 and 110, 8 hours; modern language (French, German or Spanish), 16 hours; English 101 and 104, 4 hours; social science, 6 hours; biological science, 6 hours; Physics 113 and 114, 10 hours; Engineering Drawing 101 and 102, 5 hours; Arts electives, 15 hours; total 90 hours.

Eighty semester hours of the above work shall be in those subjects mentioned in the four groups (see page 16).

When the candidate has obtained 124 semester hours in the two colleges exclusive of military drill and physical education, 100 semester hours of which shall be subjects accepted by the Arts College, the candidate shall receive the degree of Bachelor of Arts. This will ordinarily be at the end of one year's residence in the College of Engineering. At least six

semester hours, other than mechanics, of the above mentioned 100 hours, must have been earned during the first year of residence in the College of Engineering. At the end of two more years, by doing the regular amount of work, the candidate will have completed the requirements for any one of the engineering degrees, and will be recommended for the appropriate degree.

ARTS-AGRICULTURE, ARTS-HORTICULTURE AND ARTS-HOME ECONOMICS

The Colleges of Arts, Philosophy and Science and Agriculture have cooperated in organizing curricula in Agriculture, Horticulture and Home Economics that will combine the work of these two colleges. The curricula are five years in length and lead to a degree from each college. Students taking these combined curricula will be registered in the College of Arts, Philosophy and Science for the first three years and in the College of Agriculture for the last two. Upon the completion of the fourth year, students will be given the degree of Bachelor of Arts, and upon the completion of the fifth year, a degree from the College of Agriculture.

These curricula have been established for students who desire more Arts College work than can be given in a technical course and more technical work than can be given in an Arts College. For the details of these curricula see the Bulletin of the College of Agriculture.

ARTS-MEDICINE AND ARTS-HOMOEOPATHIC MEDICINE

SEVEN YEARS

This course includes the first three years of the curriculum of the College of Arts, Philosophy and Science and the four years' curriculum of the College of Medicine. On the conditions prescribed below, the degree of Bachelor of Arts is conferred at the end of the first year of the course in Medicine, and the degree of Doctor of Medicine at the end of the fourth year of the course in Medicine.

Admission to the College of Arts, Philosophy and Science. Required: English, 3 units; language other than English, 4

units; history, 1 unit; physics or chemistry, 1 unit; mathematics, 2 units; elective 4 units. Total 15 units.

Residence in the College of Arts, Philosophy and Science. The privilege of entering the Arts-Medicine course is open only to those who spend at least one of the three undergraduate years in residence in the College of Arts, Philosophy and Science of the Ohio State University.

Standing. The privilege of counting the first year of Medicine as the senior year in Arts is open only to those students who during the three years in Arts, Philosophy and Science maintain a standing of at least "A" (average).

Group-Requirements. During the three years in Arts, the student must fulfill the group-requirements for the degree of Bachelor of Arts as described in the Bulletin of the College of Arts, Philosophy and Science and further must include in his Arts course the following:

(a) Physics: 8 semester hours.

(b) Chemistry: 13 semester hours (five hours of which shall be organic chemistry).

(c) Biology: 12 semester hours—comprising general zoology, 3 semester hours (Zoology 101); comparative anatomy of vertebrates, 3 semester hours (Anatomy 118); and Physiology 101-102, or Physiology 132 and 118, 6 semester hours.

(d) Psychology (101-102), 6 semester hours.

(e) English: 6 semester hours.

Electives. No part of the course in Medicine may be counted as elective in the College of Arts, Philosophy and Science, during the three undergraduate years.

Degrees. When the student has completed at least 90 hours as above, in addition to military drill and physical education, he may enroll in the College of Medicine, and when he has gained credit for the first year's work in the College of Medicine, he will be recommended by the faculty of the College of Arts, Philosophy and Science for the degree of Bachelor of Arts. When he has gained credit for the second, third, and fourth years' work in the College of Medicine, he will be recommended

by the faculty of the College of Medicine for the degree of Doctor of Medicine.

SCIENCE-MEDICINE

SIX YEARS

This course includes the first two years of the curriculum of the College of Arts, Philosophy and Science and the four years' curriculum of the College of Medicine. On the conditions prescribed below, the degree of Bachelor of Science is conferred at the end of the second year of the course in Medicine, and the degree of Doctor of Medicine at the end of the fourth year of the course in Medicine.

Admission. The same as for the Arts-Medicine Course.

Residence. The same as for the Arts-Medicine Course, substituting two years for three years.

Standing. The privilege of counting the first two years in Medicine as the last two years in the College of Arts, Philosophy and Science is open only to those students in the Ohio State University who maintain a standing of at least "A" (average).

CURRICULUM—FIRST YEAR

	First Semester	Second Semester
Foreign Language (French or German preferred)	4	4
English	2	2
Chemistry (general and qualitative).....	4	4
Social Science	3	3
Zoology (101)	3	
Anatomy (118)		3

SECOND YEAR

Foreign Language (French or German preferred)	4	4
Psychology (101-102)	3	3
Physics (103-104 or 105-106).....	4	4
Chemistry (organic)	5	
Physiology (132)		3
English		2

Degrees: When the student has completed at least 50 hours as above, in addition to military drill and physical education, he may enroll in the College of Medicine, and when he has gained credit for the first two years' work in the College of Medicine, he will be recommended by the faculty of the College of Arts, Philosophy and Science for the degree of Bachelor of Science. When he has gained credit for the third and fourth years' work in the College of Medicine he will be recommended by the faculty of the College of Medicine for the degree of Doctor of Medicine.

DEPARTMENTS OF INSTRUCTION

AMERICAN HISTORY

Office, 207 University Hall

PROFESSORS G. W. KNIGHT AND HOCKETT, ASSISTANT PROFESSOR
BOUCHER, MR. WOOD, MR. WITTKKE, MR. ROSEBOOM

The courses offered by this department are designed to meet the needs of several classes of students. Course 101-102 is intended not only to afford a foundation for advanced work in the field but to give such a knowledge of the facts of our national history as should be the possession of every citizen. In the selection of additional courses, students who can take only one should choose either 109-110, 111-112, 113-114, 115-116 or 123-124 (note prerequisites), unless their particular interests call for one of the following choices: Courses 107-108, 109-110, 113-114 and 130 correlate well with work in political science; 111-112, and 115-116 are of interest to students of sociology; 123-124 and 125-126 are of value to students of economics; 107-108 is a good preliminary for law. (For preparation for the teaching of American history consult the department announcement in the Bulletin of the College of Education.)

As the proper foundation for graduate work with a major in American history are recommended: 101-102, followed by a course running through the year chosen from the group numbered 103-110; at least one other course, preferably from the group for Advanced Undergraduates; and 119 in the Senior year. European History 101-102 and 103-104, Political Science 101-102, and Economics 101-102 are an essential part of the preparation for successful graduate study in American history. (For minimum requirements and courses for graduates consult the announcement of the department in the Bulletin of the Graduate School.)

101-102. History of the United States (1763-1920.) Three credit hours. The year. Mr. Hockett, Mr. Wood, Mr. Wittke, Mr. Roseboom.

This course comprises a study of the history of the United States, in which political, constitutional, and economic phases receive chief attention. The first semester covers the period 1763-1829. The second semester treats the period 1829-1920. Text-book, discussion and collateral readings. This course must precede all other courses in American history, except 118 and 125-126.

American History 101 is given also during the second semester, and American History 102 during the first semester.

***107. Formation of the Constitution.** Two credit hours. First semester. Prerequisite, American History 101-102. Political Science 133 or 101 will be found a valuable adjunct to this course. Mr. Hockett.

Beginning with a brief study of the constitutional ideas of Americans in the revolutionary period, the course traces the formation of the federal constitution by the convention of 1787, and discusses the constitutional problems involved in the establishment of the government. Lectures, discussion and reports.

***108. Constitutional History of the United States.** Two credit hours. Second semester. Prerequisite, American History 101-102. American History 107 affords a good foundation, and Political Science 133 or 101 a valuable adjunct. Mr. Hockett.

The chief controversies over the interpretation of the constitution and the effects of these controversies upon the evolution of the American constitutional system. Such questions are dealt with as the acquisition of territory, internal improvements, the tariff, slavery, and the relations of the nation and the states. Lectures, discussion and reports.

109. Early Political Parties in the United States. Two credit hours. First semester. Prerequisite, American History 101-102. Mr. Boucher.

The radical party of the Revolution; the evolution and growth of national parties in the period thereafter until 1852; the relation of social and economic forces to parties; the influence of newspapers on public opinion; the rise of great party leaders. Lectures, discussion and research in contemporary newspapers and other material.

110. Political Parties in the United States (1852-1920). Two credit hours. Second semester. Prerequisite, American History 101-102. American History 109 affords a good foundation. Mr. Boucher.

The development of national parties in the period from 1852 to the re-election of Woodrow Wilson and after, special attention being devoted to the effect of the Civil War on parties, and to

*Not given in 1920-1921.

the influence of the new economic and social conditions in creating new parties and policies. Lectures, discussion and reports.

103-104. The American Colonies, 1600-1783. Three credit hours. The year. Prerequisite, American History 101-102. Mr. Wood.

The general history of the English colonies in America, with especial emphasis on European conditions affecting colonization, the development of government in the several colonies, and relations with the mother country, including the struggle for independence. Lectures, discussion and reports.

118. History of Canada. Two credit hours. Second semester. Not open to first year students. Mr. Wittke.

Special attention is given to the period since the Dominion Act of 1867, to the relations of Canada with the mother country and with the United States, and to a comparison of Canadian with American development and institutions. Lectures, readings, and reports.

***125. Colonial Period of Latin America.** Two credit hours. First semester. Given biennially, alternating with American History 103. Not open to first year students. Mr. Wood.

The main features of Spanish and Portuguese colonization in North, Central and South America, with special attention to the founding of the colonies, their forms of government and relations to the home countries, and the development of a Latin-American civilization. Lectures, discussion and reports.

***126. History of the Latin-American Republics.** Two credit hours. Second semester. Given biennially, alternating with American History 104. Not open to first year students. American History 125 is the best preparatory course. Mr. Wood.

The development of revolutionary sentiment, the wars for independence, the establishment and political development of the Latin-American Republics, the relations of these republics with each other and with the outside world. Lectures, discussion and reports.

NOTE—For course in War Issues see European History 131-132, The World War: its Causes, Issues and Results. Three credit hours. The year. Not open to first year students.

*Not given in 1920-1921.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

For all courses in this group, the prerequisite is four semesters in the Social Science group, of which at least two must be in American history.

119. Introduction to Historical Research. Two credit hours. First semester. Prerequisite, four semesters in American history. Mr. Hockett.

Drill in finding historical material by the use of standard guides, manuals and catalogs, followed by practice in criticizing material, and exercises in historical composition. Each student then applies what has been learned by preparing an essay. Attention is given throughout to approved forms for note-taking, citation of authorities, etc. Designed especially for students who expect to teach American history in secondary schools, or to pursue graduate work in this field.

111. The Slavery Struggle in the United States. Three credit hours. First semester. Given biennially, alternating with American History 113. Prerequisites, American History 101-102 and at least two other semesters in the Social Science group. Mr. Boucher.

The development of slavery in its connection with the constitutional and political history of the country, territorial expansion, the rise and fall of parties, the divergence of the sections, and the eventual abolition of the institution.

112. Reconstruction and its Results, 1863-1920. Three credit hours. Second semester. Given biennially, alternating with American History 114. Prerequisites, American History 101-102 and at least two other semesters in the Social Science group. American History 111 affords a good foundation. Mr. Boucher.

The aftermath of the slavery struggle as traced in the reconstruction of the southern states and in the readjustment of society and of the states to the new status of the negro.

***113. American Diplomacy to the Close of the Civil War.** Three credit hours. First semester. Given biennially, alternating with American History 111. Prerequisites, American His-

*Not given in 1920-1921.

tory 101-102 and at least two other semesters in the Social Science group.

The foreign relations of the United States, beginning with the diplomacy which resulted in the establishment of independence and including such subjects as the struggle for neutral rights and commercial recognition, the extension of territory on the continent, the origin of the Monroe Doctrine, and the international controversies of the Civil War. Lectures, discussion and reports.

114. Problems of American Diplomacy since the Civil War. Three credit hours. Second semester. Given biennially, alternating with American History 112. Prerequisites, American History 101-102 and at least two other semesters in the Social Science group. Mr. Knight.

Problems in the diplomacy of the United States, resulting from the Civil War, the development of the Monroe Doctrine, the acquisition of dependencies, relations with Latin America and the Orient, arbitration, the Isthmian canal, and neutral rights during the Great War in Europe. Lectures, discussion and reports.

115. The History of the Westward Movement to 1812. Three credit hours. First semester. Mr. Hockett.

The westward advance of settlement from the Atlantic coast, across the Alleghenies, into the Ohio Valley, dealing with the causes of the movement, the rise of new communities, and the influence of western development upon national history and institutions. It is essentially a study of the development of American society. Lectures, discussion and assigned readings.

116. The History of the Westward Movement since 1812. Three credit hours. Second semester. Mr. Hockett.

The progress of settlement in the Mississippi Valley and westward to the Pacific, studying the territorial acquisitions, the fur trade of the far West, the discoveries of gold and silver, the extension of railways to the Pacific, the Indian wars, the significance of the disappearance of the frontier, the irrigation and conservation movements.

123-124. Recent History of the United States, 1870-1920. Three credit hours. The year. Prerequisites, American History 101-102 and at least two other semesters in the Social Science group. Economics 101-102 will be found a valuable adjunct to this course. Mr. Knight.

An intensive study of the political, constitutional, industrial and social life of the nation and the states during the past generation; it includes a consideration of new applications of the constitution, industrial development, territorial expansion, the entry of the United States into the world politics, third party movements, and the rise of the new democracy. Lectures and individual investigation.

130. American Historical Writers. Two credit hours. Second semester. Prerequisite, four semesters in American history. Mr. Hockett.

A study of the methods and works of Sparks, Parkman, Bancroft, McMaster, Rhodes, and other leading American historians.

133. The Influence of Racial Groups on the History of the United States. Two credit hours. First semester. Mr. Wittke.

The influence of different racial groups upon American history from the colonial to the modern period, with special emphasis upon the contributions of the immigrant to the development of American institutions, and the effect of immigration upon our political and social history.

FOR GRADUATES

203-204. The United States and Latin-America, 1800-1905.

205-206. Seminary in American History.

For description of graduate courses in this department see the Bulletin of the Graduate School.

ANATOMY

Office, 105 Biological Hall

PROFESSOR LANDACRE, ASSISTANT PROFESSOR BUCK,
MR. KNOUFF, MR. BAKER

Courses in anatomy are designed for three classes of students:

(a) Students desiring a general training in the anatomy of the vertebrates should take Comparative Anatomy 101-102 as a preliminary course. This may be followed by General Vertebrate Embryology 103-104, or Anatomy and Embryology of the Frog 105-106 or any of the courses listed for advanced undergraduates. Students interested in the nervous system should take 107 or 108 as a preliminary course, which may be followed by 109-110 for more extended study from a comparative standpoint.

(b) Students desiring to major in anatomy or to take a minor in anatomy should begin work with 101-102, or 103-104 and follow these with 105-106, or 107-108, or 109-110 and 119. The strictly graduate courses are listed in the Graduate School Bulletin. Courses listed in the College of Medicine Bulletin are open to election by graduate students who have completed the pre-medical requirements in the Arts College.

(c) Pre-medical students should take Anatomy 118. If they spend more than two years in the College of Arts, this may be followed by 103-104, 111-112, 113-114 or 119 which furnish desirable preliminary training for the medical courses but do not duplicate such courses. For courses in Dentistry and Veterinary Medicine, see the bulletins of those colleges.

101. Comparative Anatomy of the Vertebrates. Three to five credit hours. First semester. One recitation and five to eight laboratory hours each week. Not open to Freshmen. Mr. Baker.

Fishes, amphibians and reptiles.

102. Comparative Anatomy of the Vertebrates. Three or five credit hours. Second semester. One recitation and five to eight laboratory hours each week. Prerequisite, Anatomy 101 or an equivalent. Mr. Baker.

Birds and mammals.

103. Vertebrate Embryology. Three to five credit hours. First semester. One lecture or recitation and five to eight laboratory hours each week. Not open to Freshmen. Mr. Landacre.

Karyokinesis and the early development of fishes and amphibians.

104. Vertebrate Embryology. Three to five credit hours. Second semester. One lecture or recitation and five to eight laboratory hours each week. Not open to Freshmen. Mr. Landacre.

The development of reptiles and birds.

105. Anatomy of the Frog. Three to five credit hours. First semester. One lecture or recitation and five to eight laboratory hours each week. Not open to Freshmen. Mr. Landacre.

The gross anatomy of the frog in addition to the preparation of tissues and organs for study.

106. **Anatomy of the Frog.** Three to five credit hours. Second semester. One lecture or recitation and five to eight laboratory hours each week. Not open to Freshmen. Mr. Landacre.

The histology and early development of the frog.

107. **Introductory Neurology.** Three to five credit hours. First semester. One recitation or lecture and four to eight laboratory hours each week. Not open to Freshmen. Mr. Landacre, Mr. Baker.

The gross structure and development of the vertebrate central nervous system and sense organs.

108. **Introductory Neurology.** Three to five credit hours. Second semester. One lecture or recitation and four to eight laboratory hours each week. Not open to Freshmen. Mr. Landacre, Mr. Baker.

The minute structure of the brain, spinal cord and sense organs of the vertebrates with special emphasis on the conduction paths of the brain and cord.

118. **Elementary Comparative Anatomy of Vertebrates.** Three to five credit hours. Second semester. One lecture and five to eight laboratory hours each week. Required of students in the Arts-Medicine and Science-Medicine courses. Prerequisites, Zoology 101, Physiology 101 or an equivalent. Mr. Landacre, Mr. Knouff, Mr. Baker.

A preliminary study of the comparative anatomy and embryology of the vertebrates accompanied by careful dissections of the shark, frog and cat. This course meets the pre-medical requirements in anatomy.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

109. **Comparative Neurology.** Three to five credit hours. First semester. One lecture or recitation and five to eight laboratory hours each week. Prerequisite, Anatomy 101-102 or an equivalent. Mr. Landacre.

The origin and structure of the nervous system and sense organs of the lower vertebrates.

110. Comparative Neurology. Three to five credit hours. Second semester. One lecture or conference and five to eight laboratory hours each week. Prerequisite, Anatomy 101-102 or an equivalent. Mr. Landacre.

The structure of the central nervous system and sense organs of the higher vertebrates including man.

111-112. Proseminary. One credit hour. The year. Prerequisite, Anatomy 101-102 or an equivalent. Mr. Landacre.

A discussion of the recent advances in vertebrate anatomy, embryology, cytology and neurology based on recent literature. The second semester includes in addition, reports on original work done in the department.

113-114. Cytology. Three to five credit hours. The year. One lecture or conference and five to eight laboratory hours each week. Prerequisite, Anatomy 101-102 or an equivalent. Mr. Landacre.

The cell as an organism and as a basis for development and inheritance.

119. Advanced Comparative Anatomy. Three to five credit hours. First semester. One conference and five to eight laboratory hours each week. Prerequisite, Anatomy 101-102 or an equivalent. Mr. Baker.

An intensive study of types, organs or systems of organs of vertebrates from the comparative viewpoint.

120. Advanced Comparative Anatomy. Three to five credit hours. Second semester. One conference and five to eight laboratory hours each week. Prerequisite, Anatomy 101-102 or an equivalent. Mr. Baker.

The student will select or will be assigned, a minor problem in the comparative anatomy of some vertebrate type, or of an organ, or system of organs, in a series of vertebrate types.

FOR GRADUATES

201-202. Vertebrate Embryology.

203-204. Research Work.

For description of graduate courses in this department see the Bulletin of the Graduate School.

ART

Office, 203 Hayes Hall

PROFESSOR KELLEY, ASSISTANT PROFESSOR ROBINSON, MR. NORRIS, MR. WEBBER, MISS KNAUBER, MRS. BRAUN

131-132. Elementary Drawing. Two credit hours. The year. All instructors.

This course is designed to develop a thorough knowledge of form and values in black and white, also the use of free-hand perspectives.

Art 131 is given also during the second semester.

Art 132 is given also during the first semester.

133. Advanced Drawing. Two credit hours. Either semester. Prerequisite, Art 131-132.

This course is designed to give the student some freedom in the use of drawing as a medium of expression. Drawing from the antique and the costume model.

136. Water Color Painting. Two credit hours. Either semester. Prerequisite, Art 133 and 141.

Painting from still life and costume models. The purpose of this course is to train the color perceptions of the student.

141. Elementary Design. Two credit hours. Either semester. Prerequisite, Art 131 and 119. All instructors.

The principles of the theory and practice of design.

151. History of Classic Art. Three credit hours. First semester. Not open to Freshmen. Mr. Kelley.

The study of the art of Greece and Rome, with some consideration of Egypt, Assyria, and Persia. Illustrated lectures, reading and reports.

152. History of Medieval Art. Three credit hours. Second semester. Prerequisite, Art 151. Not open to Freshmen. Mr. Webber.

From the origins of Christian art in Rome to the end of the Gothic period. Illustrated lectures, reading and reports.

153. History of Renaissance and Modern Art. Three credit hours. First semester. Prerequisite, Art 151. Not open to Freshmen. Mr. Webber.

From the beginning of the Renaissance in Italy to the beginnings of modern art in the eighteenth century. Illustrated lectures, reading and reports.

160. Modern Painting and Sculpture. Three credit hours. First semester. Three lectures each week. Mr. Kelley.

This course will deal with the art of the last two centuries, laying particular stress upon the development in France, England and the United States.

119. Appreciation of Art. One credit hour. Either semester. Mr. Kelley.

This course is designed to give a critical and appreciative attitude toward art to those who have no technical knowledge of the subject.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

***154. Greek Sculpture.** Two credit hours. First semester. Prerequisite, Art 151. Mr. Kelley.

Lectures, reading and short thesis.

155. Italian Schools of Painting. Two credit hours. Second semester. Prerequisites, Art 151, 152, 153. Mr. Webber.

Lectures, reading and short thesis.

A study of the history and methods of Italian painting, with special reference to the formative influences in the painting of Italy and to the influence of Italy upon other European painting.

***156. Netherlandish Schools of Painting.** Two credit hours. Second semester. Prerequisites, Art 151, 152, 153. Miss Robinson.

Lectures, reading and short thesis.

***157. Art of China and Japan.** Three credit hours. First semester. Prerequisite, junior standing, and at least two other courses in this department. Mr. Kelley.

*Not given in 1920-1921.

Lectures, reading and reports.

158. Thesis in Art History. Five credit hours. Second semester. Prerequisite, fifteen hours of art history. Mr. Kelley. This course is required of students graduating in art history.

ASTRONOMY

Office, Emerson McMillin Observatory

PROFESSOR LORD, ASSOCIATE PROFESSOR MANSON

101-102. General Astronomy. Three credit hours. The year. Mr. Lord, Mr. Manson.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

104-105. Astronomy, Geodesy, and Least Squares. Three credit hours. The year. Prerequisite, the calculus. Mr. Lord, Mr. Manson.

107-108. Advanced Astronomy. Three to five credit hours. The year. Prerequisite, the calculus. Mr. Lord, Mr. Manson.

109-110. The Theory of Lenses. Four credit hours. The year. Prerequisite, the calculus. Mr. Lord.

A course in applied optics, beginning with the Gaussian theory of lenses and followed by a complete discussion to the terms of the second order of spherical aberration, eccentric oblique refraction, coma (Von Seidel's second condition), distortion, and achromatism. Supplemented with laboratory practice in the design and construction of simple photographic lenses.

111-112. Introduction to Celestial Mechanics. Three to five credit hours. The year. Prerequisite, the calculus. Mr. Manson.

A discussion of rectilinear motion under law of inverse squares and under law of direct distance; central forces, including character of orbit under various laws of attraction; the potential and attraction of bodies; the problem of two bodies; including the computation of positions of planets and comets; brief discussion of the determination of orbits; the general integrals of the problem of bodies and an introductory discussion of the problem of three bodies, lunar theory and perturbations.

BACTERIOLOGY

Office, 202 Veterinary Laboratory Building

**PROFESSORS MORREY AND STARIN, MRS. MASTERS, MR. OCKER-
BLAD, MR. WATSON, AND DEPARTMENT ASSISTANTS**

FOR ADVANCED UNDERGRADUATES AND GRADUATES

These courses in Bacteriology are open to advanced undergraduates and graduate students only, not to freshmen or sophomores. The instructor in charge must be consulted before electing.

107. General Bacteriology. Four or five credit hours. First semester. Mr. Morrey, Mrs. Masters, and department assistants.

This course is a prerequisite to all elective courses in the department and is designed to prepare for special work. The lectures consider the botanical relationship of bacteria, their morphology, classification, effect of physical and chemical environment, action on food material, etc. The laboratory work includes preparation of the ordinary culture media and making of cultures on these media, staining methods, and some typical bio-chemical actions.

108. Pathogenic Bacteria. Two to five credit hours. Second semester. Prerequisite, Bacteriology 107. Mr. Morrey, Mrs. Masters.

A study of the more important bacteria producing disease in man, including cultural and staining properties, methods of diagnosis, animal inoculation; also in the lectures, ways of transmission and methods of protection against infectious disease; sanitation and the theories of immunity.

114. Water Examination, Sewage Disposal, Water Filtration. Two to five credit hours. Second semester. Prerequisite, Bacteriology 107. Mr. Morrey, Mrs. Masters.

A study of the methods and devices used in these processes and of the organisms concerned. The modern water filtration and sewage disposal plants of the city of Columbus afford most excellent opportunities for practical demonstration and also for study of special problems.

***116. Bacteriological Chemistry.** Two to five credit hours. Second semester. Prerequisite, Bacteriology 107.

This course is designed for the study of special problems in bacterial activities from the chemical standpoint. It is essentially an investigation course.

117-118. Immunity and Serum Therapy. Two to five credit hours. The year. Prerequisites, Bacteriology 107 and 108 or equivalents. Mr. Starin.

A discussion of the general principles of immunity, including toxins and anti-toxins, bactericidal substances, agglutinins, precipitins, opsonins, etc. Immunological relations of the various infectious diseases are considered. Laboratory work consists in the preparation of toxins, anti-toxins, anti-bacterial substances, bacterial vaccines, and in the serological methods of diagnosis.

119-120. Pathogenic Protozoa. Two to five credit hours. The year. Prerequisites, Bacteriology 107 and 108 or equivalents. Mr. Starin.

The various protozoal diseases are considered, with especial attention to trypanosomises, piroplasmoses, and spirochaetoses.

125-126. Special Problems in Bacteriology. Three to five credit hours. The year. Conferences, library and laboratory work. Prerequisite, one year's work in bacteriology. Mr. Morrey, Mr. Starin.

FOR GRADUATES

201-202. Research in Pathogenic Bacteriology.

203-204. Research in Agricultural Bacteriology.

For description of graduate courses in this department see the Bulletin of the Graduate School.

BIBLIOGRAPHY

Office, The Library

MISS JONES, MR. REEDER

105. Bibliography for the Social Sciences. Two credit hours. Either semester. Mr. Reeder.

*Not given in 1920-1921.

This course covers the use of library catalogs, magazine indexes, reference books, and national, state, municipal and foreign documents. For students electing this course, at least one course must have been completed in the departments of American History, Economics and Sociology, European History or Political Science, and an additional course in the Social Science group must be carried at the same time. Lectures and problems.

BOTANY

Office, 102 Botany and Zoology Building

PROFESSORS TRANSEAU AND SCHAFFNER, ASSISTANT PROFESSORS GRIGGS, STOVER, AND SAMPSON, MISS DETMERS, MR. WALLER, AND DEPARTMENT ASSISTANTS

101-102. General Botany. Three credit hours. The year. Two recitations and two laboratory hours each week. Mr. Sampson, Mr. Griggs, Mr. Stover, Miss Detmers, Mr. Waller.

A study of structure, growth, nutritive processes and water relations of the vegetative body of plants, and the relation of plants to their environments, the first semester.

A study of the reproduction, heredity, and evolution of plants; the nutrition and reproduction of bacteria and fungi in relation to plant diseases and sanitation; a brief survey of the great plant groups, and the classification of some of the common plants of Ohio, during the second semester.

***108. Ecological Anatomy.** Three credit hours. Second semester. One lecture and four laboratory hours each week. Prerequisite, Botany 101-102. Miss Detmers.

A study of plant structures in relation to environmental factors.

116. Plant Pathology. Three credit hours. Second semester. One lecture and four laboratory hours each week. Prerequisite, Botany 101-102. Mr. Stover.

Representative bacterial and fungus diseases of the principal agricultural crops are studied in the laboratory. In the lectures,

*Not given in 1920-1921.

consideration is given to the nature, symptoms, and control of plant diseases and the classification and life-histories of causal organisms.

119-120. Local Flora. Three credit hours. The year. Six laboratory hours each week. Prerequisite, Botany 101-102. Mr. Griggs.

Field and laboratory study of the local flora. Practice in the identification of plants belonging to all of the great groups. Either course may be elected separately.

123. Morphology of Lower Plants. Four credit hours. First semester. Two lectures and four laboratory hours each week. Prerequisite, Botany 101-102. Mr. Griggs.

A study of the evolution and life histories of the more important groups of algae, fungi, and bryophytes.

124. Morphology of Vascular Plants. Four credit hours. Second semester. Two lectures and four laboratory hours each week. Prerequisite, Botany 101-102. Mr. Griggs.

A study of the evolution and life histories of the more important groups of ferns and seed plants.

125-126. Plant Physiology. Four credit hours. The year. Lectures and laboratory. Prerequisite, Botany 101-102. Mr. Transeau.

An experimental study of plant processes and the relation of these processes to environmental factors.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

117-118. Plant Ecology. Three credit hours. The year. One lecture and four laboratory hours each week. Prerequisite, Botany 101-102 and one additional year of some biological subject. Mr. Transeau.

The ecological relations of the forests, prairies, and deserts of North America. Field work on the local plant associations.

121. Plant Genetics. Three credit hours. First semester. One lecture, two laboratory hours each week. Prerequisite, Botany 101-102 and one additional year of some biological subject. Mr. Schaffner.

In this course the principles and methods of plant genetics are considered, including a study of fertilization and reproduction, hybridization, heredity, Mendelian laws, fluctuations and mutations.

Students electing this course should take Zoology 129.

127-128. Plant Pathology. Four credit hours. The year. Two lectures and four laboratory hours. Prerequisite, Botany 101-102 and one additional year of some biological subject. Mr. Stover.

The course includes a study of the nature, symptoms, classification and course of plant diseases, their relations to environmental conditions; the diseases of particular crop plants and the methods of control; the classification and life histories of parasitic plants.

In the laboratory attention is given to the preparation of culture media, the isolation and culture of plant pathogens, the inoculation of plants followed by a study of the progress of the disease, and the preparation and use of preventive materials. A number of plant diseases are studied both in the laboratory and the field.

129-130. Principles of Taxonomy. Three to five credit hours. The year. Prerequisite, Botany 101-102 or equivalent, and one additional year of some biological subject. Mr. Schaffner.

The organography of the flowering plants from the standpoint of evolution, including a special consideration of phyletic series, probable relationships, the significance of vestiges, specializations and adaptations, and the development of a correct taxonomy.

133-134. Minor Investigations. Three to five credit hours. The year. Prerequisite, Botany 101-102 and one additional year of some biological subject. Mr. Transeau, Mr. Schaffner, Mr. Griggs, Mr. Stover, Mr. Sampson, Miss Detmers, Mr. Waller.

***135-136. Evolution of Plants.** One credit hour. The year. Prerequisite, Botany 101-102 and one additional year of some biological subject. Mr. Schaffner.

*Not given in 1920-1921.

The evolution of plants, with a general discussion of the problems and factors involved, including both the scientific and philosophical aspects of the subject.

139-140. Advanced Plant Pathology. Three credit hours. The year. One lecture and four laboratory hours each week. Prerequisite, Botany 127-128. Mr. Stover.

151-152. Plant Micro-Chemistry. Three credit hours. The year. One lecture and four laboratory hours each week. Prerequisite, Botany 125-126. Mr. Sampson.

A study of the chemical substances occurring in plant cells and the chemical changes accompanying plant processes and plant responses.

155. Economic Botany. Three credit hours. First semester. Two lectures and two laboratory hours each week. Prerequisite, Botany 101-102 and one additional year of biological work. Mr. Waller.

Important economic plants of the world studied with reference to their geographic distribution, commercial importance and uses. A summary of the centers of crop production in relation to natural centers of vegetation, environmental, economic and other conditions.

FOR GRADUATES

201-202. Research in Systematic Botany.

203-204. Research in Morphology and Cytology.

205-206. Research in Physiology and Ecology.

207-208. Research in Mycology and Plant Pathology.

For description of graduate courses in this department see the Bulletin of the Graduate School.

CHEMISTRY

Office, 100 Chemistry Hall

PROFESSORS McPHERSON, HENDERSON, FOULK, W. L. EVANS, AND WITHROW, ASSISTANT PROFESSORS BOORD, DAY, HOLLINGSWORTH, AND MACK, MR. VILBRANDT, AND
DEPARTMENT ASSISTANTS

105. Elementary Chemistry. Four credit hours. First semester. Mr. Evans, Mr. Day, and department assistants.

A general course on the chemistry of the non-metals, arranged for students who have not presented chemistry as an entrance requirement. Students taking this course will follow with Chemistry 106, second semester.

106. Elementary Chemistry and Qualitative Analysis. Four credit hours. Second semester. Prerequisite, Chemistry 105. Mr. Evans, Mr. Day, and department assistants.

A general course on the chemistry of the metals. The laboratory work accompanying is a general introductory course in qualitative analysis.

109. General Chemistry. Four credit hours. First semester. Mr. Evans, Mr. Day, and department assistants.

A general course on the chemistry of non-metals. It is more advanced than Chemistry 105 and is arranged for students who have had an acceptable course in elementary chemistry in a secondary school. Students taking this course will follow with Chemistry 110, second semester.

110. General Chemistry and Qualitative Analysis. Four credit hours. Second semester. Prerequisite, Chemistry 109. Mr. Evans, Mr. Day, and department assistants.

A general course on the chemistry of the non-metals. It is more advanced than Chemistry 106. The laboratory work is a general course in qualitative analysis.

113-114. Advanced General Chemistry. Two credit hours. The year. Prerequisite, Chemistry 106 or 110. Mr. Henderscn.

A course of fundamental topics in the field of advanced general chemistry.

119-120. Quantitative Analysis. Four credit hours. The year. One lecture, nine laboratory hours each week. Laboratory open forenoons and afternoons. Prerequisite, Chemistry 106 or 110, or equivalent. Mr. Foulk, Mr. Hollingsworth, Mr. Hoover.

Elementary principles of gravimetric and volumetric analysis, with typical analytical methods. This course must be accompanied by Chemistry 124, except by special permission of

the instructor. It is also desirable that it be accompanied by Chemistry 113-114.

124. Chemical Problems. One credit hour. Second semester. Mr. Foulk, Mr. Hoover.

Extended practice in the solution of problems pertaining to gravimetric and volumetric analysis. This course is arranged to accompany Chemistry 119-120.

136. The Reading of Chemical Literature. Two credit hours. Second semester. Prerequisite, one year of German. Mr. Foulk.

The object of this course is to afford practice in the rapid reading of German chemical literature, the selections being made with special reference to the technical terms of the science.

150. Organic Chemistry. Five credit hours. First semester. Three lectures and six laboratory hours each week. Prerequisite, Chemistry 105-106 or 109-110. For pre-medical students. Mr. Evans.

151-152. Organic Chemistry. Two credit hours. The year. Prerequisite, Chemistry 109-110, 113-114 and 119-120, except by special permission of the instructor. Mr. McPherson.

Lectures in organic chemistry.

153-154. Organic Chemistry. Two or three credit hours. The year. Six or nine laboratory hours each week. Laboratory open afternoons. This course must be accompanied or preceded by Chemistry 151-152. Mr. McPherson, Mr. Boord, Mr. Galloway.

The preparation of typical organic compounds.

164. Physical Chemistry. Two credit hours. Second semester. Designed for pre-medical and medical students. Two lectures with lecture table demonstrations of experiments illustrating the application of the methods of physical chemistry to the problems of bio-chemistry. Prerequisites, Chemistry 105, 106, or 109, 110, Organic Chemistry 150. Mr. Mack.

The course will include a brief study of gases, solutions, osmosis, electrolytic equilibrium, rate of chemical reaction, catalysis, and colloid chemistry, with frequent references to physiological processes.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

155. Quantitative Organic Analysis. Two credit hours. First semester. Six hours conference and laboratory work each week. Prerequisite, Chemistry 153-154. Mr. Boord.

The ultimate analysis of organic compounds and the determination of radicals.

156. Qualitative Organic Analysis. Two credit hours. Second semester. Six hours conference and laboratory work each week. Prerequisite, Chemistry 153-154. Mr. Boord.

A study of the systematic classification of organic compounds for analysis. Separation, purification and identification of organic compounds.

157-158. Physical Chemistry. Three credit hours. The year. Prerequisite, Chemistry 113-114, 119-120 and 151-152, and Physics 112, except by special permission of the instructor. Mr. Mack.

This is a general course in physical chemistry.

161. Physical Chemistry. Two or three credit hours. Either semester. Six or nine laboratory hours each week. Prerequisite or concurrent, Chemistry 157-158. Mr. Mack.

An elementary course in physico-chemical measurements, including such topics as molecular weights and conductivity.

165. Quantitative Analysis. Two credit hours. First semester. Two recitations each week. Prerequisite, Chemistry 119-120 or equivalent. Mr. Foulk.

Advanced course. A general survey of the methods of quantitative analysis.

167. Special Methods of Analysis. Three to five credit hours. First semester. One lecture and six to twelve laboratory hours each week. Prerequisite, Chemistry 119-120. Mr. Hollingsworth.

Selections may be made from gas analysis and spectrum analysis.

168. Qualitative Analysis. Three to five credit hours. Second semester. One lecture, six to twelve laboratory hours each week. Prerequisite, Chemistry 119-120 or equivalent. Mr. Hollingsworth.

Advanced course. Extended work in general qualitative analysis including the more important of the rarer elements.

169. Quantitative Analysis. Three to five credit hours. First semester. One conference and six to twelve laboratory hours each week. Prerequisite, Chemistry 119-120 or equivalent. Mr. Foulk.

Advanced course. A laboratory course in advanced quantitative analysis.

176. Water Analysis. Three credit hours. Second semester. Two lectures and three laboratory hours each week. Laboratory open forenoons and afternoons. Prerequisite, Chemistry 119-120 or equivalent. Mr. Foulk.

A study of the methods of sanitary and industrial water analysis and the interpretation of results.

177. Industrial Chemistry. Two credit hours. First semester. Two lectures each week. Prerequisite, Chemistry 113-114 and 153. Mr. Withrow.

A general course in the principles underlying the application of chemistry in the industries.

178. Industrial Chemistry. One credit hour. Second semester. One lecture each week. Mr. Withrow.

A continuation of Chemistry 177.

185. Industrial Chemistry. Two credit hours. First semester. One hour conference, and five laboratory hours each week. Prerequisite, Chemistry 119-120, and must be accompanied or preceded by Chemistry 177-178. Mr. Withrow, Mr. Vilbrandt.

Industrial chemical research.

186. Industrial Chemistry. Three credit hours. Second semester. One hour conference, and eight laboratory hours each week. A continuation of Chemistry 185. Mr. Withrow, Mr. Vilbrandt.

In the latter portion of the semester the study of methods for the analysis of industrial products is undertaken.

187. Inorganic Preparations. Three credit hours. Either semester. One recitation and six laboratory hours each week.

Laboratory open afternoons. Prerequisite, Chemistry 114 and 120. Mr. Henderson.

The preparation of a limited number of compounds chosen so as to give practice in the preparation of inorganic compounds.

192. Rare Elements. Two credit hours. First semester. Two lectures each week. Prerequisite, Chemistry 119-120 and 113-114. Given biennially. Mr. Henderson.

A general course on the chemistry of the rare elements, including a discussion of their increasing economic importance.

194. Applied Electro-Chemistry. Two credit hours. Second semester. Two lectures each week. Prerequisite, Chemistry 157-158, except by special permission of the instructor. Mr. Withrow.

A descriptive course covering the application of the electric current in the chemical industries.

*196. Inorganic Chemistry. Two credit hours. Second semester. Two lectures each week. Prerequisite, Chemistry 157-158. Given biennially. Mr. Henderson.

A general discussion of some topic in the field of inorganic chemistry. The topic for 1921-1922, Colloids.

173. Chemical Biography. Two credit hours. First semester. Two lecture-recitations each week. Prerequisite, Chemistry 113-114, 119-120, 151-152. Mr. Henderson.

Designed to familiarize advanced undergraduate students with the leading personages in chemistry, particularly in recent and contemporary times.

171. Chemical Bibliography. One credit hour. First semester. Lecture-quiz and library practice. Prerequisite, twenty-six collegiate credit hours of chemistry. Mr. Boord.

A course in the use of chemical literature.

FOR GRADUATES

201-202. Physical Chemistry.

205-206. Organic Chemistry.

*Not given in 1920-1921.

- 209-210. Inorganic Preparations.
213. Historical Chemistry.
*215. Seminary in Organic Chemistry.
216. Seminary in Organic Chemistry.
217. Seminary in Organic Chemistry.
*218. Seminary in Organic Chemistry.
221. Seminary in Inorganic Chemistry.
224. Seminary in Physical Chemistry.
225. Seminary in Advanced Industrial Chemistry.
226. Seminary in Advanced Industrial Chemistry.
227. Scientific Foundations of Analytical Chemistry.
235-236. Research Work.
*239. Seminary in Analytical Chemistry.
241-242. Advanced Industrial Chemistry.

For description of graduate courses in this department see the Bulletin of the Graduate School.

ECONOMICS AND SOCIOLOGY

Office, 5 Page Hall

PROFESSORS HAGERTY, HAMMOND, HUNTINGTON, RUGGLES AND NORTH, ASSISTANT PROFESSORS WALRADT, MARK AND DICE, MR. HELD, MR. GETTYS, MR. CLARKE, MISS SHEETS, MR. PIKE, MR. WALL, MR. ECKELBERRY AND DEPARTMENT ASSISTANTS

ECONOMICS

The following courses are open only to advanced undergraduates and graduates: 104, 105, 110, 121, 141, 144, 153, 157, 159, 160, 163, 165, 166, 167, 169, 177, 181, 182, 183, 201, 202, 207-216.

101-102. Principles of Economics. Three credit hours. The year. Not open to Freshmen. Should precede all courses in Economics, except 132 and 133. Concurrent 139. Mr. Hammond, Mr. Ruggles, Mr. Dice, and instructors.

A study of the laws of production, exchange, distribution and consumption of wealth, combined with an analysis of the industrial actions of men as regards land, labor, capital, money,

*Not given in 1920-1921.

credit, rent, interest, wages, etc. Text-book, lectures and individual investigation.

Economics 102 is given also during the first semester. Mr. Walradt and instructors.

Economics 101 is given also during the second semester. Mr. Walradt and instructors.

104. Conservation of Natural Resources. Two credit hours. Second semester. Two recitations each week. Prerequisite, Economics 101-102. Mr. Huntington.

The importance of the fundamental natural resources: agricultural, forest, mineral, and water. The exploitation of soils, forests, mines, etc., and the movement for their conservation. The reclamation of arid and swamp land, reduction of erosion, development of forestry, elimination of waste in mining, improvement of waterways, use of water power, and problems of water supply.

105. Public Utilities. Two credit hours. First semester. Two recitations each week. Prerequisite, Economics 101-102. Mr. Ruggles.

A study of the various public utilities other than steam railroads. Their development and the demand for their services, with especial reference to their economic and social significance. An historical study of their management, organization, finance, and the principles and practices of rate making and valuation. Current problems and tendencies in regulation.

119. Women in Industry. Three credit hours. First semester. Prerequisite, Economics 101-102 or Sociology 101-102. Miss Mark.

A study of the economic position of women. Their relation to the household; their industrial and commercial opportunities; their preparation for various occupations. Legal, social and industrial problems created by the entrance of women into the field of industry.

120. The Household. Three credit hours. Second semester. Prerequisite or concurrent, Sociology 101-102 or Economics 101-102. Miss Mark.

The family as an economic institution. The evolution of household industries and its effect upon the home. Organiza-

tion of the household with reference to the functions of man and woman.

121. Economic and Social Geography of Ohio. Two credit hours. First semester. Two recitations each week. Prerequisite, Economics 133, and Economics 102 or Sociology 102. Mr. Huntington.

Geographic influences in the history of the state. A study of its agriculture, industries, and social conditions, together with the underlying physical, climatic, and other environmental factors that have contributed to the present development of the region.

132. Principles of Social Geography. Three credit hours. Either semester. Not open to juniors and seniors. Prerequisite to all courses in economic geography. Mr. Huntington.

The geographic factors in environment: land, water, climate, plants and animals; their influence upon man, his distribution and his activities; and the uses which man makes of his geographic environment to gratify his manifold wants.

133. Economic Geography. Three credit hours. Second semester. Not open to juniors and seniors. Prerequisite to all advanced courses in economic geography. Mr. Huntington.

The influences of geographic environment, with special reference to North America.

139-140. Elements of Accounting. Three credit hours. The year. Two recitations and one two-hour laboratory period each week. Prerequisite, registration in Economics 101-102.

An introduction to practical accounting, including the preparation and interpretation of business statements.

Economics 139 is given also during the second semester, and Economics 140 during the first semester.

141. Public Finance. Two credit hours. First semester. Prerequisite, Economics 101-102.

Public expenditures, their growth and control; the budget; financial administration; public debts; systems of public revenue and taxation.

144. Problems of Taxation. Two credit hours. Second semester. Prerequisite, Economics 141.

A critical examination of tax systems with particular reference to questions of incidence and of proposed reforms. The Ohio system of taxation will be given special consideration.

145-146. Proseminary in Economics. Two credit hours. The year. Open only to students who have obtained permission of the instructor. Mr. Ruggles.

A course of individual investigation and class discussion of practical economic problems. Recommended to students who have had at least two years' work in economics.

147-148. Financial History of the United States. Two credit hours. The year. Prerequisite, Economics 101-102. Mr. Walradt.

A study of the fiscal and monetary history of the country from colonial times to the present, with special reference to federal taxation, loans and financial administration, currency legislation, and the development of banking institutions.

153. Money and Credit. Three credit hours. First semester. Prerequisite, Economics 101-102. Mr. Dice.

The nature and functions of money; the money economy; the medium of exchange; the relations of money and credit to prices; the cost of living; monetary systems; the gold standard; bimetallism, paper or fiat money, the gold-exchange standard; the principles and history of commercial banking with reference to the provision of media of exchange; currency reform in the United States; the bearing of the federal reserve system upon the elasticity of bank currency.

157. Life Insurance. Two credit hours. First semester. Prerequisite, Economics 101-102.

Principles of life insurance and its economic and social significance; kinds of companies, policies, methods of organization, operation and regulation. Health, accident, industrial and old-age insurance.

159. The Geography and History of Commerce. Three credit hours. First semester. Prerequisite, Economics 101-102. Mr. Huntington.

The basis and development of commerce in the chief commercial nations. Present and prospective leadership among commercial nations and the factors contributing to it. Regulation of commerce by the state and local governments.

NOTE—Additional courses in geography may be found listed in the department of Geology and in the bulletin of the College of Commerce and Journalism.

160. International Commercial Policies. Three credit hours. First semester. Prerequisite, Economics 101-102.

Theory of international trade; historic policies; mercantilism; free-trade and protection. A study of the tariff policy of the United States, with a comparative study of the policies of the British Empire, France and Germany. Tariff reform. The merchant marine question.

163. Corporation Economics. Three credit hours. First semester. Prerequisite, Economics 101-102.

The various forms of business enterprises, partnerships, joint-stock companies, corporations. Corporation organization and finance. Publicity of accounts and government regulation of corporations.

165. Labor Legislation. Three credit hours. First semester. Prerequisite, Economics 101-102. Mr. Hammond.

A study of the labor laws of the United States and of the principal foreign countries with reference to their social and economic causes and effects.

166. Industrial Relations. Three credit hours. Second semester. Prerequisite, Economics 101-102. Mr. Hammond.

An account of the labor movement at home and abroad. Special attention is given to the policies of organized labor in the United States. The progress of collective bargaining and trade agreements. Recent efforts to secure an increased participation of labor in the work of industrial management and to develop friendly relations between employers and employed.

167. Railway Economics. Three credit hours. First semester. Prerequisite, Economics 101-102. Mr. Ruggles.

The development of the means of transportation. Railway growth and consolidation. Railway rate theories and practice.

Railway commissions and public control. Government ownership of railroads.

169. Theory of Business Enterprise. Two credit hours. First semester. Prerequisite, Economics 101-102.

Business enterprise as a factor in production; social function of enterprise; the pecuniary value of an enterprise; the scale of an enterprise; advantage and size; profitable proportions; profits; relation of profits to wages, interest and rent; determination of profits; different kinds of profits and their sources; the historic tendency of profits; fair and unfair profits. Lectures, assigned readings, discussions and papers.

177. Principles of Statistics. Three credit hours. First semester. Prerequisite, Economics 101-102 or Sociology 101-102. Miss Mark.

A study of the methods of statistical investigation. Collecting, arranging, and interpreting statistical data. Making schedules; tabulation; averages and ratios; diagrams and curves; correlation; sampling.

181-182. Economic History of the United States. Three credit hours. The year. Prerequisite, Economics 101-102. Mr. Walradt.

The development of agriculture, trade and manufactures from the comparatively simple system of colonial days to the complex economic organization of the present.

The course endeavors to point out the inter-relation which exists between this development and the various economic and social problems which have arisen.

183. Industrial Combinations and Monopolies. Three credit hours. Second semester. Prerequisite, Economics 163.

The forms of industrial combinations, pools, trusts, holding companies, consolidations. The trust movements at home and abroad. Monopolistic tendencies of combinations. Effects of monopoly on production, prices, wages and profits. Legislative interference with combinations and monopolies.

FOR GRADUATES

201-202. History of Economic Thought.

207-208. Seminary in Economics.

- 209-210. Research in Corporations and Labor.
211-212. Research in Transportation and Public Utilities.
213-214. Research in Banking and Finance.
*215-216. Research in Economic and Social Statistics.

For other courses in this department see the Bulletin of the College of Commerce and Journalism.

For description of graduate courses in this department see the Bulletin of the Graduate School.

SOCIOLOGY

The following courses are open only to advanced undergraduates and graduates: 104, 111, 114, 117, 118, 125, 126, 131, 134, 201, 202, 207, 208.

101-102. Principles of Sociology. Three credit hours. The year. Not open to freshmen. Mr. Hagerty, Mr. North, Miss Mark, Mr. Clarke, Mr. Gettys.

A study of the fundamental principles of sociology. Text-book, lectures, collateral reading and individual investigation.

Sociology 101 is given also during the second semester.

Sociology 102 is given also during the first semester.

104. The Immigrant. Three credit hours. First semester. Prerequisite, Sociology 101-102. Mr. Clarke.

The causes and sources of migration, the characteristics and standard of living of the immigrant; immigration laws.

134. American Race Problems. Three credit hours. Second semester. Prerequisite, Sociology 101-102. Mr. Clarke.

Characteristics of the Negro, the Indian, the Mexican, and the Oriental; problems of assimilation.

107. The Family. Three credit hours. First semester. Prerequisite or concurrent, Sociology 101-102.

A study of the matrimonial institutions and family organization in primitive society. The evolution of marriage and the family through Greek, Roman and Medieval periods. The modern family, its functions and problems.

108. Primitive Man in Ohio. One credit hour. Second semester. Prerequisite, Sociology 101-102. Mr. Mills.

*Not given in 1920-1921.

A study of the geological evidence of man's antiquity in Ohio. A detailed study of mounds, earthworks and remains; environments and stages of culture; late discoveries in the mounds and village sites of Ohio. Illustrated by specimens from the Archeological Museum.

111. Poverty. Three credit hours. First semester. Prerequisite, Sociology 101-102. Mr. Gettys.

A study of the personal and social causes of poverty and dependency. Exploitation, maladjustment, housing conditions, tenement legislation, etc. The maintenance of a reputable standard of living.

114. Recent Socialism and Social Reform. Three credit hours. Second semester. Prerequisite, Sociology 101-102 or Economics 101-102.

Marx and his contemporaries. Present movements in the United States and abroad. The social function of the church.

117-118. Methods of Sociological Investigation. Two credit hours. The year. Mr. Clarke.

A cooperative study of current social problems. This course is designed to prepare students to do independent social research and is recommended to those who contemplate graduate work.

123. Anthropology. Three credit hours. First semester.

An elementary study of the essential characteristics of mankind and of the distinguishing traits of the several races of men; the origin and development of various races. Anthropological problems. Text-book, lectures, discussions and readings.

124. Ethnology. Three credit hours. Second semester. Prerequisite, Sociology 123.

A genetic study of the social, occupational and mental life of the several races of men. The origin and development of the various institutions and activities which have had their beginning in primitive society. Ethnological problems. Text-book, lectures, discussions and readings.

125. Social Order and Social Control. Three credit hours. First semester. Prerequisite, Sociology 101-102. Mr. Hagerty.

A study of the social activities and the social nature as the basis of social order and a consideration of the various agencies of social control,—custom, conventionality, social suggestion, the mob, public opinion, law, education, religion, art, ceremony, ideals, personality.

126. Social Progress. Three credit hours. Second semester. Prerequisite, Sociology 101-102. Mr. Hagerty.

A study of the different theories of social progress and of the forms that make for and against progressive civilization.

127. Leisure and Recreation. Three credit hours. First semester. Prerequisite or concurrent, Sociology 101. Mr. Gettys.

The sources of leisure in early and modern society. The social significance and uses of leisure. The social functions of play. Historical aspects of play. The recreation problem of modern communities from the standpoint of control and of public provision. Recreation surveys.

131. The Criminal. Three credit hours. First semester. Prerequisite, Sociology 101-102. Mr. Hagerty.

The social, economic and physiological causes of crime. The changing character of crime as modified by the legal code. Types of criminals, the instinctive, habitual, professional, etc. The classical and positive schools of criminology. The relation of feeble-mindedness and degeneracy to crime. Juvenile crime, its causes and prevention.

FOR GRADUATES

201-202. Advanced Sociology.

207-208. Seminary in Sociology.

For other courses in this department see the Bulletin of the College of Commerce and Journalism.

For description of graduate courses in this department see the Bulletin of the Graduate School.

ENGLISH

Office, 103 Physics Building

PROFESSORS DENNEY, TAYLOR, McKNIGHT, GRAVES AND KETCHAM,
ASSISTANT PROFESSORS COOPER, BECK, ANDREWS AND PER-
CIVAL, MR. CRAIG, MR. WILEY, MISS DOLLINGER, MISS SNIF-
FEN, MR. ESPER, MR. TAIT, MR. FRENCH AND DEPART-
MENT ASSISTANTS

101. Paragraph Writing: Description and Narration. Two credit hours. Either semester. All instructors.

English 101 is given also in the Summer Session.

NOTE—English sounds for foreigners—see German 197.

104. Paragraph Writing: Exposition and Argumentation. Two credit hours. Either semester. Prerequisite, English 101. All instructors.

English 104 is given also in the Summer Session.

105. Descriptive and Narrative Writing. Two credit hours. First semester. Prerequisite, English 101, 104. Mr. Beck, Mr. Craig.

The number admitted to this course is limited to thirty. Special permission necessary.

106. Expository Writing. Two credit hours. Second semester. Prerequisite, English 101, 104, 105. Mr. Beck, Mr. Craig.

The number admitted to this course is limited to thirty. Special permission necessary.

107. Advanced Composition. Two credit hours. First semester. Prerequisite, English 101, 104. Mr. Graves.

The number admitted to this course is limited to thirty. Special permission necessary.

108. Advanced Composition. Two credit hours. Second semester. Prerequisite, English 101, 104. Mr. Graves.

The number admitted to this course is limited to thirty. Special permission necessary.

127. History of the English Language. Two credit hours. First semester. No prerequisite course. Mr. McKnight.

Designed for students without a knowledge of Old and Middle English. The development of the language is traced by means of illustrative specimens. Attention is paid to the history of spelling and pronunciation, the changes in the meaning of words, and the origin of modern idioms.

128. English Words. Two credit hours. Second semester. No prerequisite course. Mr. McKnight.

Text-book: Greenough and Kittredge's *Words and their Ways in English Speech*.

133. Introduction to American Literature. Three credit hours. Either semester. No prerequisite course. Mr. Taylor, Mr. Graves, Mr. Andrews.

Second semester, Mr. Cooper, Mr. Beck.

The outline of the history will be given by lecture. The reading and criticism will be of Irving, Cooper, Bryant and Poe; of Hawthorne, Emerson, Whittier, Longfellow and Lowell; and of Walt Whitman; with a brief survey of recent literature.

141. Nineteenth Century Poetry. Three credit hours. First semester. No prerequisite course. Mr. Taylor, Mr. Cooper, Mr. Andrews.

Wordsworth, Shelley, Keats, and their contemporaries.

142. Nineteenth Century Poetry. Three credit hours. Second semester. No prerequisite course. Mr. Taylor, Mr. Cooper, Mr. Andrews.

Reading and criticism as far as possible complete of Tennyson and Browning. Some initial consideration will be undertaken of Fitzgerald, Arnold, Swinburne, Rossetti, Morris and Meredith.

145. Nineteenth Century Prose. Three credit hours. First semester. No prerequisite course. Mr. Denney, Mr. Graves, Mr. Beck, Mr. Percival.

Readings in Coleridge, Lamb, Landor, DeQuincy, Hazlitt and Carlyle.

146. Nineteenth Century Prose. Three credit hours. Second semester. No prerequisite course. Mr. Denney, Mr. Graves, Mr. Beck, Mr. Percival.

Reading in Arnold, Ruskin, Newman, Pater, Stevenson, and in recent and contemporary essayists.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

143. Literature and Composition. Three credit hours. First semester. Prerequisite, at least ten hours in English. Special permission necessary. Mr. Andrews.

The chief points of view in literature since 1890 are discussed as a basis for critical or creative writing. The topics will be aspects of recent realism and romance. Conference on individual work.

144. Literature and Composition. Three credit hours. Second semester. Continuation of English 143. Prerequisite, at least ten hours in English. Special permission necessary. Mr. Andrews.

***151. Old English.** Three credit hours. First semester. No prerequisite course. Mr. McKnight.

Old English prose and poetry as found in Bright's Anglo-Saxon Reader.

***152. Old and Middle English.** Three credit hours. Second semester. Prerequisite, English 151. Mr. McKnight.

Beowulf, followed by selections illustrating the language and literature from the Norman Conquest to the time of Chaucer.

153. Chaucer and his Principal Contemporaries and Successors. Three credit hours. Second semester. Mr. McKnight.

Chaucer's principal works are read. Consideration is also given to Gower, Wycliffe, Langland, the author of Sir Gawayne and the Grene Knight, Occleve, Lydgate, Barbour, James I of Scotland, Dunbar, etc.

154. English Medieval Literature to Chaucer. Three credit hours. First semester. Mr. McKnight.

A study of epic poetry in early English, followed by a study of legends, romances, tales, and metrical histories, all done by means of modern English renderings.

*Not given in 1920-1921.

155. **The Novel: Richardson to Scott.** Three credit hours. First semester. Prerequisite, fourteen hours in English. Mr. Taylor.

The history and development of the novel in this period is given by lecture. Reading and criticism of Richardson, Fielding, Sterne, Jane Austen and Scott.

156. **The Novel: Dickens to Meredith.** Three credit hours. Second semester. Prerequisite, fourteen hours in English. Mr. Taylor.

The history and development of the novel in this period is given by lecture. Reading and criticism of Dickens, Thackeray, Trollope, George Eliot, Meredith, Hardy and James.

157. **Versification.** Three credit hours. First semester. This course is limited to thirty members. Open only to juniors and seniors. Special permission necessary. The course should be preceded by a year-course in poetry. Mr. Graves.

The theory of verse structure with a history of the principal English rhythms, and practice in verse composition.

158. **The Short Story.** Three credit hours. Second semester. Prerequisite, English 105 and 106, or 107 and 108. This course is limited to thirty members. Open only to juniors and seniors. Special permission necessary. Mr. Graves.

Lectures on structure and form in the short story, with class reports on assigned readings, and practice in story writing.

159. **Milton and his Contemporaries.** Two credit hours. First semester. Prerequisite, fourteen hours in English. Mr. Andrews.

The belles-lettres of the Puritan Revolution.

160. **The Age of Dryden.** Two credit hours. Second semester. Prerequisite, fourteen hours in English. Mr. Andrews.

136. **Eighteenth Century Poetry and Prose.** Three credit hours. First semester. Prerequisite, ten hours in English. Mr. Percival.

After some consideration of the classical poetry of Pope and his contemporaries, the development of romantic poetry is

studied in the works of Thomson, Gray, Collins, Burns, Goldsmith, Cowper, Blake, Crabbe and others.

137. **The Life and Times of Dr. Johnson.** Three credit hours. Second semester. Prerequisite, English 136. Mr. Percival.

A study of the life of Dr. Johnson, and of the manners and currents of opinion of his time, based principally on Boswell's *Life of Johnson*, supplemented by readings in the *Letters of Horace Walpole*, the *Journal of John Wesley*, and various essays on eighteenth century topics.

165. **Early Popular Drama.** Three credit hours. First semester. Prerequisite, English 167, 168. Mr. McKnight.

Liturgical plays, mysteries, miracles, Robin Hood plays, St. George plays, moralities, interludes, and the earliest regular comedies and tragedies.

Manly's *Specimens of Pre-Shakespearean Drama* is made the basis of this course. Outside study in the complete collections is also prescribed.

166. **The Drama from 1580 to 1642.** Three credit hours. Second semester. Prerequisite, English 167, 168. Mr. McKnight.

One or two plays of each of the principal contemporaries and immediate successors of Shakespeare; lectures on the history of the drama in this period.

167. **Shakespeare: Histories and Tragedies.** Three credit hours. First semester. Prerequisite, fourteen hours in English. Mr. Denney.

168. **Shakespeare: Comedies and Romances.** Three credit hours. Second semester. Prerequisite, fourteen hours in English. Mr. Denney.

169. **Modern English Drama, 1642-1800.** Three credit hours. First semester. Prerequisite, English 167, 168. Mr. Cooper.

Representative plays of the principal dramatists are read; lectures on the history of the drama in this period. Among the authors studied are Dryden, Wycherley, Congreve, Farquhar, Van Brugh, Cibber, Goldsmith and Sheridan.

170. Modern English Drama of the Nineteenth Century. Three credit hours. Second semester. Prerequisite, English 167, 168. Mr. Cooper.

The reading of representative plays, such as the plays of Robertson, Pinero, Gilbert, Wilde, Jones, Shaw, Barker, Hankin and Synge, is accompanied by lectures on the history of the drama in the nineteenth century. Some attention is given to the work of American writers, Thomas, Moody, Mackaye and Fitch.

FOR GRADUATES

- 201. History of the Short Narrative in English.
- 202. The Lyric.
- *204. The College Teaching of English.
- 205. History of Critical Theory.
- 206. Problems in the Drama.
- 207. The Later Novel.
- 208. The Later Poetry.
- 209. English and Scottish Popular Ballads.
- *210. English Usage.
- 212. The Celtic Renaissance.
- 213. The Technique of the Modern Drama.
- 214. The Technique of the Drama.
- 215-216. Studies in Seventeenth Century Literature.
- 217-218. Studies in Eighteenth Century Literature.
- 219-220. Discussion of Dissertations.

For description of graduate courses in this department see the Bulletin of the Graduate School.

PUBLIC SPEAKING

101. Public Speaking. Two credit hours. First semester. Prerequisite, English 101, 104. Mr. Ketcham, Mr. Wiley.

The principles of public speaking. The methods of securing the attention, and maintaining the interest of an audience. Practice in the application of principles and methods to simple expository and argumentative addresses.

102. Debating. Two credit hours. Second semester. Prerequisite, English 101, 104. Mr. Ketcham, Mr. Wiley.

*Not given in 1920-1921.

Practice in making and presenting oral arguments. The theory and practice of argumentation and debate. Short class debates on subjects of current interest.

107-108. Advanced Argumentation and Debate. Three credit hours. The year. Prerequisite, consent of the instructor. Mr. Ketcham.

A study of great political and legal debates. Special applications of logic to argument. Practice in drawing briefs and presenting oral arguments on political and legal problems.

110. Advanced Debate Practice. Two credit hours. Second semester. Two practice periods each week. Prerequisite, consent of instructor. Mr. Ketcham.

An advanced course for students showing special ability in debate.

114. Extempore Speaking. Two credit hours. Second semester. Prerequisite, Public Speaking 102. Mr. Wiley.

Practice in gathering and arranging speech material for extemporaneous addresses. Special exercises for developing clearness, concreteness, connotation, unity and movement in extemporaneous speaking.

***121-122. Masters of Public Address.** Two credit hours. The year. May be taken with Public Speaking 101 and 102, but may not precede them. Given biennially. Mr. Ketcham.

Consideration will be given to the life of the speaker, the events leading up to his principal public addresses, his subject matter and its treatment, and his influence. The studies will include Demosthenes, Cicero, Burke, Erskine, Gladstone, Henry, Webster, Clay, Calhoun, Lincoln, Beecher and Phillips. Lectures, readings and reports.

125-126. The Forms of Public Address. Two credit hours. The year. Prerequisite, Public Speaking 101-102. Mr. Ketcham.

A study of the methods of the foremost American and English orators. Class discussions. Practice in the use of different forms of public address. Formal orations; inaugurals; nominating speeches; after dinner speaking; discussions of current events; political, business and social addresses.

*Not given in 1920-1921.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

151-152. Special Problems in the Theory of Public Speaking. Two credit hours. The year. Prerequisite, Public Speaking 101,102, and four additional credit hours in public speaking. Given biennially. Mr. Ketcham.

The function of the speaker in reforms, revolutions, and public movements. Criticism and appreciation. Ideals and aesthetic standards in public speaking.

Each student is required to make investigations in some special problem and to bring his results before the class for discussion.

ENTOMOLOGY

(See Zoology and Entomology)

EUROPEAN HISTORY

Office, 305 University Hall

PROFESSORS SIEBERT, McNEAL, AND PERKINS, ASSISTANT PROFESSORS WASHBURNE AND KNIPFING, MR. BURROUGHS

101. Medieval History. Three credit hours. First semester. Mr. Siebert, Mr. McNeal, Mr. Perkins, Mr. Washburne, Mr. Knipfing.

European History 101 is given also during the second semester.

102. Modern History from 1500 A. D. Three credit hours. Second semester. Mr. Siebert, Mr. McNeal, Mr. Perkins, Mr. Washburne, Mr. Knipfing.

European History 102 is given also during the first semester.

103-104. History of England. Three credit hours. The year. No prerequisite for second, third and fourth year students. Mr. Perkins.

A course intended for all students wishing to obtain a general survey of the subject, also for those specializing in English literature or American history, and for those preparing to teach history in secondary schools.

105. History of Greece. Three credit hours. First semester. No prerequisite for second, third and fourth year students. Mr. Knipfing.

106. History of Rome. Three credit hours. Second semester. No prerequisite for second, third and fourth year students. Mr. Knipfing.

***119-120. History of Germany.** Two credit hours. The year. No prerequisite for second, third and fourth year students. Mr. McNeal.

The history of Germany since 1648, with especial emphasis on the rise of Prussia and Germany in the 19th century.

121-122. History of France. Two credit hours. The year. No prerequisite for second, third and fourth year students. Mr. McNeal.

The history of France from the accession of Louis XIV, with especial emphasis on the French Revolution, Napoleon and France in the 19th century.

131-132. The World War: its Causes, Issues, and Results. Three credit hours. The year. Not open to freshmen. Mr. McNeal, Mr. Hockett, Mr. Wittke, Mr. Washburne.

This course deals with the remote and immediate underlying causes of the great war, the issues involved among the nations, with special emphasis on the relation of the United States to the conflict, the problems and issues in its settlement, and the consequent national and international reconstruction.

While not required, it is suggested that a collegiate course in European history, or American history or political science may with advantage precede this course.

135-136. The History of Civilization. Three credit hours. The year. Prerequisite, European History 101-102. All instructors.

A survey of economic, social, and intellectual progress in ancient, medieval and modern Europe.

*Not given in 1920-1921.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

109. The Age of the Renaissance, 1250 to 1500 A. D. Two credit hours. First semester. Prerequisite, European History 101 and 102. Mr. Siebert.

The rise of our modern civilization, treating of the revival of letters and art, the spread of education, the early developments of modern science, the geographical discoveries, and the political, social, and ecclesiastical changes which occurred during the same period.

110. The Period of the Reformation. Two credit hours. Second semester. Prerequisite, European History 101 and 102. Mr. Siebert.

Reformational movements from the death of Dante (1321) to the end of the Council of Trent (1563).

113-114. Constitutional History of England. Three credit hours. The year. Prerequisite, European History 101 and 102. Mr. Siebert.

Intended for students especially interested in the institutional side of English and American history and in political science, and for those taking the Arts-Law course or expecting to enter the College of Law.

123-124. Europe from 1815 to 1920. Three credit hours. The year. Prerequisite, European History 101 and 102. Mr. Perkins.

The history of central and western Europe from the close of the French Revolution to the present time, with especial emphasis on the past fifty years, and the interpretation of recent events in Europe.

125-126. History of the Church in Western Europe. Two credit hours. The year. Prerequisite, European History 101 and 102. Mr. Knipfing.

Advanced students from other departments admitted without the prerequisite.

129-130. Historical Literature and Method. Two credit hours. The year. Two lectures each week. Prerequisite, European History 101-102, and at least one other year-course in the

department. Mr. Siebert, Mr. McNeal, Mr. Perkins, Mr. Knipping.

An introduction to the chief sources for the various divisions and periods of European history, and a characterization of the principal secondary authorities. Exercises in historical bibliography and method. Designed for students specializing in European history.

141-142. The History of the Expansion of Europe. Two credit hours. The year. Prerequisite, European History 101-102. Mr. Washburne.

143-144. The History of the Slavic Peoples of Europe. Two credit hours. The year. Prerequisite, European History 101-102. Mr. Siebert.

FOR GRADUATES

203-204. Seminary in European History.

For description of graduate courses in this department see the Bulletin of the Graduate School.

FRENCH

(See Romance Languages and Literatures)

GEOLOGY

Office, 104 Orton Hall

PROFESSORS BOWNOCKER AND CARMAN, ASSISTANT PROFESSORS HILLS AND TUCKER, MISS MORNINGSTAR, MR. LAMBORN

101-102. Physiography. Three credit hours. Either semester. Open to freshmen and sophomores only. Mr. Hills, Mr. Tucker.

In Geology 101 Saturday field trips or laboratory work during the week will be substituted for one lecture period throughout the semester.

Physiographic features of the earth's surface; the ocean, and the atmosphere.

103. Physical Geology. Three credit hours. First semester. Mr. Bownocker.

Introductory course. Petrographical, structural and dynamical geology. Study of common minerals and rocks and geological maps. The course is illustrated with lantern views, models, and museum materials.

104. Historical Geology. Three credit hours. Second semester. Recitations, lectures, laboratory, and field trips. Prerequisite, Geology 101 or 103. Mr. Carman.

A study of the geological history of North America, its physical history, life development and structure. The course deals with the classification and distribution of the geological formations, especially those of Ohio, and with the characteristic fossils of each system. During the second half of the semester there will be several field trips on Saturdays.

121. Introduction to Geography. Three credit hours. First semester. Lectures, assigned reading and laboratory. Mr. Tucker.

The fundamental principles of geography. An introductory study of the relations of the lithosphere, hydrosphere, and atmosphere to life, especially to the life of man.

***122. Geography of North America.** Three credit hours. Second semester. Lectures, assigned reading and laboratory. Prerequisite, Geology 121. Mr. Tucker.

North America in its relation to the rest of the world. Its physical features, climate and natural resources and their relation to the life and development of the North American people.

124. Physical and Regional Geography of Europe. Three credit hours. Second semester. Lectures, assigned reading and laboratory. Prerequisite, Geology 121. Mr. Tucker.

Europe in its relation to the rest of the world. Its physical features, climate and natural resources and their relation to the life and development of the European people. Offered in 1920-1921.

*Not given in 1920-1921.

***125. Geography of Asia.** Three credit hours. First semester. Lectures, assigned reading and laboratory. Prerequisite, Geology 121. Mr. Tucker.

Asia in its relation to the rest of the world. Its physical features, climate and natural resources and their relation to the life and development of the Asiatic people, especially the people of India, China, Japan and Siberia.

166. Petrography. Two credit hours. Second semester. Prerequisite, Geology 103 and chemistry. Mr. Bownocker.

A study of hand specimens of igneous, metamorphic and sedimentary rocks. More than one-half of the time will be devoted to laboratory work.

NOTE—Additional courses in geography may be found listed in the department of Economics and Sociology.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

105. Stratigraphic Geology of Ohio. Three credit hours. First semester. Prerequisite, Geology 101 or 103, and 104. Mr. Carman.

Field trips, laboratory work, lectures, and assigned readings. Field trips on Saturdays (entire day) while the weather permits.

The geological formations of central Ohio are studied in the field and those formations more distant from Columbus are studied by rock specimens and assigned readings. This course is intended to acquaint the student with the ordinary methods of field investigation, such as the measurement and description of geological sections, the making of geological maps, the collection and identification of specimens, and the preparation of reports describing the regions studied.

106. Glacial Geology. Three credit hours. Second semester. Prerequisite, Geology 101 or 103, and 104. Mr. Hills.

A study of the glacial geology of North America. The first half of the semester will be given to lectures, assigned readings and map work. The second half, largely to field work and the preparation of reports, the field work being on Saturdays.

*Not given in 1920-1921.

107-108. Invertebrate Paleontology. Three credit hours. The year. Recitations, lectures and laboratory work. Prerequisite, Geology 101 or 103-104. Mr. Carman, Miss Morningstar.

A study of the systematic classification of the animal kingdom as a means of becoming acquainted with the faunas that characterize the various geological formations. The course deals mainly with the generic and specific characters of the fossil invertebrates and their use in identifying and correlating geological formations.

113-114. Areal Geology. Two to five credit hours. The year. Prerequisite, Geology 101 or 103, 104, 105-106 and 107-108 for stratigraphy, and 101 or 103, 104, and 105-106 for surficial geology. Field work. Mr. Carman, Mr. Hills.

Instruction in the standard methods of field work and of preparing geological maps and reports. Field study and mapping of geological formations or surficial deposits of an assigned region followed by the preparation of the report.

116. Physiography of the United States. Three credit hours. First semester. Prerequisite, Geology 101-102. Mr. Hills.

The study of each large physiographic province of the United States, with a detailed description and analysis of the present topography.

141-142. Special Problems. Two to five credit hours. The year. A study of special topics and current literature in geology. Assigned readings, conferences and reports. (a) **Historical Geology.** Prerequisite, Geology 101 or 103, and 104 required. Mr. Carman. (b) **Inorganic Geology.** Prerequisite, Geology 167. Mr. Bownocker. (c) **Physiography.** Prerequisite, Geology 101 or 103, and 104. Mr. Hills.

167. Economic Geology. Three credit hours. First semester. Prerequisite, Geology 103-104. Mr. Bownocker.

A study is made of the nature of ores, their classification and origin; the metallic ores in the United States, their distribution, abundance, modes of occurrence and origin. The coals of the Appalachian field.

170. Economic Geology. Three credit hours. Second semester. Prerequisite, Geology 103-104. Mr. Bownocker.

The coal fields of the United States except those of the Appalachian field. Petroleum, natural gas and asphaltum; limes and cements; clays, building stones, etc. In the course emphasis will be laid on the deposits of Ohio.

FOR GRADUATES

201-202. Advanced Historical Geology.

203-204. Research Work.

For description of graduate courses in this department see the Bulletin of the Graduate School.

GERMAN

Office, 317 University Hall

PROFESSORS M. B. EVANS AND EISENLOHR, ASSISTANT PROFESSORS THOMAS AND BARROWS, MR. KOTZ

The courses in German, beyond those of the first two years, are divided into three groups: literary, linguistic and practice courses. The linguistic and practice courses are intended primarily for students who desire to make direct professional use of the language.

German 107 and 181 require as prerequisite, German 104 or equivalent. A combination of German 181-182 with German 107-108 or 117-118 is advised. The prerequisite for the group "For Advanced Undergraduates and Graduates" is at least one year-course in the group 107 to 118, or the equivalent.

101-102. Elementary German. Four credit hours. The year. All instructors.

German 102 is given also during the first semester. German 101 is given also during the second semester.

103. Intermediate German. Four credit hours. Either semester. Prerequisite, German 101-102 or two entrance units. Not open to students who enter with four entrance units in German. All instructors.

Reading of narrative prose; grammar review; prose composition.

104. Easy Classical Reading and Composition. Four credit hours. Either semester. Prerequisite, German 103 or three entrance units in German. Not open to students who enter with four entrance units in German. All instructors.

Reading of (a) a classical drama supplemented by discussions and lectures on the structure of the drama, its characters, and its historical background; (b) other literature of the classical period, or of the nineteenth century; prose composition.

106. Science Reading. Four credit hours. Second semester. Prerequisite, German 103 or three entrance units in German.

Rapid reading of technical literature. This is preceded or accompanied by drill on word formation, word compounds, sentence structure. The object of the course is to enable the student to read German technical literature.

107-108. Advanced German. Four credit hours. The year.

A rapid reading course. First semester: Nineteenth Century Novel. Second semester: Nineteenth Century Drama. Throughout the year practice in speaking and writing German.

117-118. Schiller: Introduction to Life and Works. Two credit hours. The year. Miss Thomas.

First semester: Gedichte, Don Carlos, Braut von Messina. Second semester: Wallenstein, Dreissigjaehriger Krieg.

131-132. Conversation and Prose Composition. Two credit hours. The year. Prerequisite, consent of the instructor. Mr. Eisenlohr.

197. English Sounds for Foreigners. Two credit hours. Second semester. No prerequisite. Miss Barrows.

The object of the course is to give the student fluency and accuracy in the use of English sounds, by means of a detailed comparison of the sounds in the native language of the student with those of English; exercises in articulation, adapted in each case to the individual needs of the student; practice in reading aloud.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

The attention of advanced students is called to the History of Germany (Course 119-120) offered by the department of European History.

179-180. Proseminary. Eighteenth and Nineteenth Century Literature. Two or four credit hours. The year. Mr. Eisenlohr, Mr. Evans.

The course will be divided into two two-hour sections, which may be taken together or separately. The list of authors to be studied will vary from year to year. For 1920-1921 the selection will be:

First semester: 179a, Lessing: *Emilia Galotti*, *Nathan der Weise*, *Hamburg Dramaturgy* (Selections). Mr. Eisenlohr.

179b, Goethe: *Goetz von Berlichingen*, *Die Leiden des jungen Werthers*, *Tasso*. Mr. Evans.

Second semester: 180a, Scheffel: *Ekkehard*, *Trompeter von Saekkingen*. Mr. Eisenlohr.

180b, Hebbel: *Agnes Bernauer*; *Herodes and Mariamne*, *Die Nibelungen*. Mr. Evans.

The course is intended to serve as an introduction to a more intensive study of German literature. There will be informal lectures in German and English, discussions and reports; also practice in speaking and writing German.

175. Phonetics. Two credit hours. First semester. No prerequisite. Not open to first and second year students. Miss Barrows.

Speech sounds with special reference to German, French and English.

181-182. Minor Investigation. Two credit hours. The year. Prerequisite, at least two year-courses in the group for advanced undergraduates and graduates. Mr. Evans, Mr. Eisenlohr, Miss Thomas, Miss Barrows.

Investigation of minor problems in the various fields of German literature and philology.

FOR GRADUATES

*201-202. Advanced Middle High German.

*203. Gothic.

*204. Old High German.

*212. Methodology.

214. Experimental Phonetics.

215-216. Seminary in German Literature.

For description of graduate courses in this department see the Bulletin of the Graduate School.

*Not given in 1920-1921.

GREEK LANGUAGE AND LITERATURE

Office, 200A University Hall

PROFESSOR BOLLING

101-102. Elementary Greek. Four credit hours. The year. Mr. Bolling.

125. Plato. Four credit hours. First semester. Prerequisite, Greek 101-102. Mr. Bolling.

Readings in the shorter dialogues; exercises in Greek prose.

126. Homer. Four credit hours. Second semester. Prerequisite, Greek 125. Mr. Bolling.

Readings in the Iliad; exercises in Greek prose.

129-130. Attic Orators, Drama or Plato. Three credit hours. The year. Prerequisite, Greek 125, 126.

131-132. Greek Prose Composition. One credit hour. The year. Prerequisite, Greek 125, 126.

115-116. Greek Art. Two credit hours. The year. No prerequisites. Greek 115 is not a prerequisite to Greek 116. Mr. Bolling.

Lectures on architecture, sculpture and vases, and on Pre-Hellenic Antiquities.

A knowledge of Greek is not required.

*123-124. Life and Literature of the Greeks. Two credit hours. The year. No prerequisites. Mr. Bolling.

133-134. Life and Literature of the Greeks. Two credit hours. The year. No prerequisites. Mr. Bolling.

These courses consist partly of lectures, and partly of assigned reading in translations from the Greek epic and lyric poets and historians (123-124) alternating each year with a similar treatment (133-134) of the tragic and comic poets, the philosophers, and the orators.

A knowledge of Greek is not required. Each part is an independent unit and the work may be begun in any semester.

*Not given in 1920-1921.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

141. Principles of the Historical Study of Language. Two credit hours. First semester. No prerequisite. Mr. Bolling.

Lectures on the elements of linguistic science, together with an outline of the Indo-European family of languages.

121-122. Historical Greek Grammar. Two to four credit hours, according to the needs of the applicants. The year. This course does not presuppose any knowledge of Greek. Mr. Bolling.

The development of the Greek language, especially in its relations to the other members of the Indo-European family. Open to advanced undergraduates and graduates pursuing languages as a major.

*127-128. Proseminary in Greek. Two credit hours. The year. Prerequisites, one year of elementary Greek, and the equivalent of at least four semester courses of college Greek. Mr. Bolling.

151-152. Readings and Lectures. Two to four credit hours. The year. Mr. Bolling.

Study of the language, style, and works of some author, or group of authors, chosen each year to meet the particular needs of the class.

Greek 115-116, 121-122, 123-124, 133-134, are planned to meet the needs of students who have no knowledge of Greek.

ITALIAN

(See Romance Languages and Literatures)

JOURNALISM

Office, 225 Shops Building

PROFESSORS MYERS AND HOOPER

101-102. News-collecting and News-writing. Three credit hours. The year. Two lectures and three laboratory hours each week. Mr. Myers.

*Not given in 1920-1921.

Attention is given to vocabulary and style in the gathering and writing of news for publication in the University daily newspaper, which is organized and operated as nearly like a city newspaper as possible.

Journalism 101 is given also during the second semester.

Journalism 102 is given also during the first semester.

For other courses in this department see the Bulletin of the College of Commerce and Journalism.

LATIN LANGUAGE AND LITERATURE

Office, 307 University Hall

PROFESSORS DERBY, HODGMAN, AND ELDEN, MR. SMITH

147. Elementary Latin. Four credit hours. First semester. Grammar and exercises. This course is offered to students who have not studied Latin. Mr. Smith.

148. Elementary Latin. Four credit hours. Second semester. Prerequisite, Latin 147. Mr. Smith.

Caesar, four books, and exercises.

149. Cicero, Orations. Four credit hours. First semester. Prerequisite, Latin 147, 148, or their equivalent. Mr. Smith.

150. Vergil, Aeneid. Four credit hours. Second semester. Prerequisite, Latin 147 to 149, or their equivalent. Mr. Smith.

101. Cicero, Livy, Horace, Aulus Gellius. Four credit hours. First semester. Prerequisite, four units of preparatory Latin. Mr. Hodgman, Mr. Elden.

Cicero: De Senectute and De Amicitia; Livy; Horace, Odes; Aulus Gellius, selections.

102. Horace, Ovid, Livy, Sallust. Four credit hours. Second semester. Prerequisite, Latin 101. Mr. Hodgman, Mr. Elden.

Horace: Odes; or Ovid: Metamorphoses; Livy or Sallust, or Prose Composition.

103. Pliny or Cicero; Catullus or Tacitus. Three credit hours. First semester. Prerequisites, Latin 101-102. Mr. Hodgman, Mr. Elden.

Pliny or Cicero: Selected letters. Catullus or Tacitus.

104. Latin Comedy. Three credit hours. Second semester. Prerequisite, Latin 103. Mr. Hodgman, Mr. Elden.

Plautus and Terence, three plays.

105. Roman Satire. Two credit hours. First semester. Prerequisite, Latin 101-104. Mr. Elden.

Horace, Juvenal or Persius.

106. Roman Philosophy and Rhetoric. Two credit hours. Second semester. Prerequisite, Latin 101 to 104. Mr. Elden.

Cicero and Quintilian.

Latin 105 and 106 are important for juniors and seniors.

107. Roman Private Life. Two credit hours. First semester. Prerequisite, Latin 101, 102. Mr. Derby.

*127-128. Legal Latin. One or two credit hours. The year. Prerequisite, Latin 101-102. Robinson's Selections from Roman Law.

This course is intended to serve as an introduction to the language and technical terms of Roman writers on law. It should be useful to students of law, history and political science.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

109. Roman Art and Archaeology. Two credit hours. Second semester. Mr. Derby.

The development of the arts and crafts in Italy and especially of Roman architecture and the decorative arts. Open not only to students of Latin, but also to other students who are interested in the subject.

111-112. Roman and Comparative Literature. One credit hour. The year. Mr. Elden.

Lectures and assigned reading on Roman literature and its influence on modern writers. Open and useful not only to students of Latin, but also to those without a knowledge of

*Not given in 1920-1921.

Latin, who desire to become acquainted with the broader outlines of Roman literature and its influence upon the literatures of France, Germany and England.

113-114. Proseminary. Three credit hours. The year. Prerequisite, Latin 101, 104. Mr. Elden.

115-116. Latin Prose Composition. Three credit hours. The year. Prerequisite, Latin 101-104. Mr. Hodgman.

Latin 115-116 should ordinarily be preceded or accompanied by Latin 105-106, or 121-122.

Latin 113-116 are essential for those students who are preparing to teach Latin, and may be important for graduate students.

119-120. Advanced Latin Composition. One or two credit hours. The year. Prerequisite, Latin 115-116. Mr. Hodgman.

Translation of English narrative and study of Latin idiom.

121. Roman Prose Authors. Two credit hours. First semester. Mr. Derby, Mr. Hodgman, Mr. Elden.

Cicero, Seneca, Quintilian, Suetonius, or Tacitus.

122. Roman Poets. Two credit hours. Second semester. Mr. Derby, Mr. Hodgman, Mr. Elden.

Plautus, Terence, Lucretius, Vergil, Ovid, Lucan, Statius, Martial, or Silius Italicus.

Latin 121-122 is designed to give an opportunity to read a considerable portion of the author chosen, and is open to advanced students only. At the option of the instructor, the study of one author may be continued during the year, or other authors used in either semester, or the class may earn more credit by meeting oftener, up to a total of five hours.

123-124. Historical Latin Grammar. One credit hour. The year. Prerequisite, Latin 101, 104. Mr. Hodgman.

Sounds and inflections. Pronunciation, ablaut, vowel and consonant changes — especially vowel weakening — accent, inflection, and other similar topics essential to the understanding of the principles which govern the development of the Latin language. This course should accompany Latin 115-116.

125-126. Historical Latin Grammar. One credit hour. The year. Prerequisite, Latin 101-104. Mr. Elden.

Syntax. Lectures on the problems connected with the origin and development of certain constructions in Latin syntax; a treatment along historical lines of the syntactic uses of the cases, modes, and tenses.

Latin 123 to 126 are deemed essential for those who make Latin a major or minor subject of study in graduate work, and are recommended for advanced undergraduate study.

130. Practice in Reading at Sight. Two credit hours. Second semester. Prerequisite, two years of college Latin. Mr. Hodgman.

Instruction and practice in reading at sight, reports, topics for investigation and other pertinent work.

***131-132. Roman Public Life.** One or two credit hours. The year. Prerequisite, Latin 103-104, or European History 106.

A brief survey of the development of Roman governmental institutions, with special attention to their functions and character during the late republic and early empire.

FOR GRADUATES

201-202. Roman Religion.

203-204. Medieval Latin.

***207-208. Seminary.**

213-214. Elements of Epigraphy and Paleography.

***215-216. Roman Antiquities and Archaeology.**

For description of graduate courses in this department see the Bulletin of the Graduate School.

MATHEMATICS

Office, 314 University Hall

PROFESSORS BOHANNAN, McCOARD, SWARTZEL, KUHN, RASOR AND MORRIS, ASSOCIATE PROFESSOR ARNOLD, ASSISTANT PROFESSORS PRESTON, BAREIS, RIETZ AND BEATTY, MISS RICKARD, MR. WEAVER

Students intending to make Mathematics a specialty are advised to secure a reading knowledge of French, German and Italian by the beginning of

*Not given in 1920-1921.

the junior year, and to take some courses in philosophy, particularly logic, in the junior and senior years.

121. College Algebra and Trigonometry. Three credit hours. First semester. Mr. Swartzel, Mr. Arnold.

122. Plane Trigonometry and Analytical Geometry. Three credit hours. Second semester. Mr. Swartzel, Mr. Arnold.

125-126. History of Elementary Mathematics. Two credit hours. The year. Prerequisite, Mathematics 128 or an equivalent. Mr. Arnold.

Especially the history of algebra and geometry, including a brief survey of the history and teaching of these subjects in the United States.

127-128. Analytical Geometry and Calculus. Three credit hours. The year. Prerequisite, Mathematics 122 or 132. Mr. Kuhn.

129-130. Mathematics of Finance and Insurance. Three credit hours. The year. Prerequisite, Mathematics 121 or its equivalent.

The principles of interest and life insurance, together with such practical problems in investments, loans, etc., as may be of interest to the general student. Practice in the construction of financial schedules and tables and in the practical use of adding machines and other mechanical aids in arithmetical computation.

135. Graphical and Statistical Methods. Three credit hours. First semester. Not open to freshmen.

Charts, diagrams and curve plottings; the standard methods of representing statistics; the smoothing of statistical data; the arithmetic and geometric means, the median and the mode; the standard deviations and other measures of dispersion and the coefficient of variability; the normal curve and the element of least squares; the theory and application of correlation; index numbers, and the correlation of index numbers. Practical work in making diagrams and in statistical reduction and computation.

131. College Algebra and Trigonometry. Five credit hours. Either semester. Prerequisite, entrance algebra and geometry. All instructors.

132. Plane Trigonometry and Analytical Geometry. Five credit hours. Either semester. Prerequisite, Mathematics 131. All instructors.

141. Calculus. Five credit hours. Either semester. Prerequisite, Mathematics 122 or 132. Mr. Bohannon, Mr. McCoard, Mr. Swartzel, Mr. Kuhn, Mr. Rasor, Mr. Arnold, Miss Bareis, Miss Rickard.

142. Calculus. Five credit hours. Either semester. Prerequisite, Mathematics 141. Mr. Bohannon, Mr. McCoard, Mr. Swartzel, Mr. Kuhn, Mr. Rasor, Mr. Arnold, Miss Bareis, Miss Rickard.

149-150. Modern Elementary Geometry. Three credit hours. The year. Specially suited to teachers of geometry in the public schools. Prerequisite, high school, plane and solid geometry. Mr. Weaver.

This course differs entirely from the present course in modern geometry. It is the ancient geometry in modern dress, and modern notions as affected by ancient notions.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

Prerequisite, Differential and Integral Calculus.

***163-164. Plane and Solid Analytical Geometry.** Three credit hours. The year. Miss Bareis.

165-166. Advanced Calculus. Three credit hours. The year. Mr. Morris.

167-168. Differential Equations. Three credit hours. The year. Mr. Bohannon.

171-172. Projective Geometry. Three credit hours. The year. Miss Bareis.

173-174. Modern Higher Algebra. Three credit hours. The year. Mr. Kuhn.

181. Probability. Three credit hours. Second semester.

The theory of probability and its application to statistics and certain problems in insurance.

*Not given in 1920-1921.

FOR GRADUATES

201-202. Theory of Functions of a Complex Variable.

203. Fourier's Series and Spherical Harmonics.

204. Vector Analysis and its Applications.

205-206. Calculus of Variations.

207. History of Mathematics.

209-210. Theory of Statistics.

211-212. Groups.

213-214. Differential Geometry.

215-216. Functions of a Real Variable.

217-218. Infinite Series and Products.

219-220. Theory of Numbers.

221-222. Theory of Invariants.

For other courses in this department see the Bulletin of the College of Commerce and Journalism.

For description of graduate courses in this department see the Bulletin of the Graduate School.

MECHANICS

Office, 219 Lord Hall

PROFESSORS BOYD AND CODDINGTON, MR. OTT

FOR ADVANCED UNDERGRADUATES AND GRADUATES

101. Statics and Strength of Materials. Five credit hours. First semester. Prerequisite, Mathematics 142. Mr. Boyd, Mr. Coddington.

102. Strength of Materials: Kinetics and Hydraulics. Five credit hours. Second semester. Prerequisite, Mechanics 101. Mr. Boyd, Mr. Coddington.

104. Strength of Materials. Two credit hours. Second semester. Prerequisite, Mechanics 101. Mr. Boyd.

FOR GRADUATES

201-202. Advanced Theoretical Mechanics.

For description of graduate courses in this department see the Bulletin of the Graduate School.

MILITARY SCIENCE AND TACTICS

Office, The Barracks

CAPTAINS LEONARD, PARKER, WRIGHT, MURRAY, AND BENNER,
U.S.A., LIEUTENANT KAUFFMAN, U.S.A., AND DEPART-
MENT ASSISTANTS

In accordance with the Morrill Act, passed in 1862, under which the University was established, military instruction must be included in the curriculum. The Board of Trustees therefore requires all male students, both special and regular, unless excused by the Military and Gymnasium Board, to drill during two years.

The Reserve Officers' Training Corps was established under the Defense Act of June 3rd, 1916, the required two years' work being included in its four-year course. Instruction is given in Infantry and Field Artillery. Under ordinary circumstances this work is under six commissioned officers of the regular army, detailed for the purpose.

The total credit in this department allowed towards the degree of Bachelor of Arts is eight semester hours, exclusive of Infantry 101-102 and 103-104 or Field Artillery 105-106 and 107-108 which are required of all male students in the freshman and sophomore classes.

EITHER 101-102 OR 105-106 ARE REQUIRED OF ALL FIRST
YEAR STUDENTS

101-102. Infantry. One credit hour. The year. Three hours each week. One-half theoretical and one-half practical work. An elementary course including infantry drill, close and extended order, battle formations, formations for protection in hostile countries, etc., practice with gallery rifles at any open hour, daily during the winter months. Lecture, one hour each week, by the President.

105-106. Field Artillery. One credit hour. The year. Three hours each week. One-half theoretical and one-half practical work. Field artillery drill, administration, ordnance and material. Lecture, one hour each week, by the President.

EITHER 103-104 OR 107-108 ARE REQUIRED OF ALL SECOND
YEAR STUDENTS

103-104. Infantry. One credit hour. The year. Three hours each week. One-half theoretical and one-half practical work. A continuation of 101-102, with additional instruction in pistol practice, the bayonet and hand grenades.

107-108. Field Artillery. One credit hour. The year. Three hours each week. One-half theoretical and one-half practical work. Artillery, motors, topography, and reconnaissance.

125-126. Advanced Military Science. For Infantry. Two credit hours. The year. Prerequisite, 101-102, 103-104, or equivalent. Five hours each week. Two hours are allotted to training as instructors in courses 101-102 or 103-104. Class room work three hours each week in advanced minor tactics, map problems, liaison, topography, field engineering, military law, technique of automatic rifles, machine guns and infantry cannon.

135-136. Advanced Military Science. For Field Artillery. Two credit hours. The year. Prerequisite, 105-106, 107-108, or equivalent. Five hours each week. Class room work three hours each week in field artillery, communication, gunnery, conduct of fire, tactics, care and training of horses. Practical work in horsemanship and training as instructors, two hours each week.

127-128. Advanced Military Science. For Infantry. Two credit hours. The year. Prerequisite, 125-126 or equivalent. Five hours each week. Two hours allotted to training as instructors in courses 101-102 or 103-104. Class room work three hours each week in topography, military policy of the United States, and advanced work in subjects under 125-126.

137-138. Advanced Military Science. For Field Artillery. Two credit hours. The year. Prerequisite, 135-136 or equivalent. Five hours each week. Class room work three hours each week in minor tactics and map maneuvers, military policy of the United States, military history, military law, care and training of horses. Practical work in horsemanship and practice as instructors, two hours each week.

SUMMER CAMPS

As a part of the instruction of the Reserve Officers' Training Corps at the University, summer camps are conducted for this district. Infantry, at Camp Custer, five miles from Battle Creek, Michigan; Field Artillery, at Camp Knox, Kentucky, thirty-one miles from Louisville. One summer camp for the students of the first two years is held between the first and second school years. This camp is voluntary.

The camp for the advanced course is held between the third and fourth years and is required. For special reasons the advanced course camp may be postponed until after the fourth year is completed.

These camps are of six weeks duration and the work is mostly practical. In addition to military work, field sports and competitions are conducted. The training for Infantry includes firing on the target range with service rifles and using ball ammunition in combat. The training for Field Artillery includes firing field guns with service ammunition. The development of leadership and discipline are primary subjects of these camps.

The Government furnishes transportation to and from the camps. While in camp, clothing, subsistence, medical attention and entertainment are provided.

MINERALOGY

Office, 104 Lord Hall

PROFESSOR McCAUGHEY

102. Crystallography and Mineralogy. Three credit hours. Either semester. Prerequisite, Chemistry 106 or 110.

Lectures on crystallography, physical and descriptive mineralogy. Illustrated by drawings, models, and mineral specimens.

104. Determinative Mineralogy. Three credit hours. Second semester. Prerequisite, Mineralogy 102. One lecture and six laboratory hours each week.

Lectures and laboratory work in practical determination of minerals by physical and chemical tests. Each student is fur-

nished with a set of apparatus and works under an instructor's inspection. Brush and Penfield's "Determinative Mineralogy" is used as a manual.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

121. Microscopic Mineralogy. Three credit hours. First semester. One lecture and six laboratory hours each week. Prerequisite, Mineralogy 102, Physics 112 or 114. Mr. McCaughey.

The use of the polarizing microscope in the identification of minerals in fine powder and in thin section. Determination of the optical constants of minerals and crystallized bodies with the polarizing microscope.

PHILOSOPHY

Office, 321 University Hall

PROFESSOR LEIGHTON, ASSISTANT PROFESSORS CHANDLER, AVEY AND WILLIAMS

The courses in Philosophy fall into three groups: the first, open to freshmen, 101-102 or 101-104; the second, not open to freshmen, but having no prerequisites, 105-106, 107-108, 115-116, 138-139; the third comprises the remaining courses, which are of more advanced character and have special prerequisites.

Freshmen beginning Philosophy must take 101-102 or 101-104. Sophomores beginning Philosophy may take either 101-102, 101-104 or one of the courses of the second group. Juniors and seniors beginning Philosophy should take one of the courses of the second group. All students concentrating in Philosophy should take 121-122, but it should not be taken before the junior year.

The following courses are of special interest to students in the fields indicated: 121-122 is included in all lists as being fundamental to all human interests; for students of literature and fine arts, 101-102, 104, 107-108, 115-116, 138-139, 145-146, 121-122; for students of mathematics and non-biological science, 101-102, 104, 107-108, 118-114, 117-118, 121-122; for students of psychology, biological and social science, 101-102, 104, 105-106, 111-112, 117-118, 134, 150, 145-146, 121-122; for students of education and of commerce and journalism, 101-102, 104, 105-106, 107-108, 109, 134, 145-146.

Students looking forward to graduate work in Philosophy should lay fully as much stress upon securing a sound general scientific and cultural training as upon the special work of this department.

101. Introduction to Philosophy. Three credit hours. Either semester. Open to freshmen. Mr. Leighton, Mr. Chandler, Mr. Avey, Mr. Williams.

The meaning and scope of philosophy, its typical problems, its relations to the special sciences, morality, art, the state, and religion.

102. Introductory Logic. Three credit hours. Either semester. Mr. Leighton, Mr. Chandler, Mr. Avey, Mr. Williams.

A practice course in the methods of correct thinking.

104. Principles of Philosophy. Three credit hours. Second semester. Prerequisite, Philosophy 101. A continuation of Philosophy 101. Mr. Leighton.

A discussion of the following topics: Theory of Knowledge and Reality, The Nature and Place of Value, The Meaning of Personality, and The Meaning of Progress.

105. Elementary Ethics. Three credit hours. First semester. Not open to freshmen. Mr. Leighton, Mr. Williams.

An introductory study of the chief theories of the moral life.

106. Elementary Ethics: History of Moral Ideas and Practices. Three credit hours. Second semester. Not open to freshmen. Mr. Chandler, Mr. Williams.

An historical study of the chief stages in moral evolution—tribal morality, the moral ideas of the ancient Hebrews and Greeks, medieval society, and modern industrialism.

107. History of Ancient and Medieval Philosophy. Three credit hours. First semester. Not open to freshmen. Mr. Chandler, Mr. Avey.

The development of Greek philosophy; early Christian philosophy; the medieval schools.

108. History of Modern Philosophy. Three credit hours. Second semester. Not open to freshmen. Mr. Chandler, Mr. Avey.

The development of modern philosophic thought from Francis Bacon and Descartes to Charles Darwin and Herbert Spencer.

***109. The Present Conflict of Ideals.** Three credit hours. First semester. Not open to freshmen or sophomores. Mr. Leighton.

*Not given in 1920-1921.

An untechnical account, and interpretation of the significance for ethical, social, and educational doctrine and practice, of the chief life-views and world-views of the present and immediate past,—evolutionism, naturalism, idealism, pragmatism, the philosophies of aristocracy, democracy, syndicalism, nationalism, and internationalism; the spiritual characteristics of the present age. Designed especially for persons preparing for teaching, social work, journalism, and the ministry.

115-116. Esthetics. Two credit hours. The year. Not open to freshmen. Mr. Chandler.

A study of the various fine arts (including music and literature) and of the beauty of nature, with the aim of discovering their relation to human nature, their respective limitations, and their value for individual and social life.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

111-112. Advanced Ethics. Two credit hours. The year. Prerequisite, one year in ethics. Mr. Williams.

A critical history of the development of ethical theory from Socrates to the present time.

113-114. Advanced Logic and Epistemology. Two credit hours. The year. Prerequisite, Philosophy 102. Mr. Avey.

First semester, a study of the most important recent developments in logical theory; second semester, a critical and constructive study of the chief theories of knowledge.

*119. Philosophy of Religion. Three credit hours. Second semester. Prerequisite, one year's work in philosophy, psychology, or history of religion. Mr. Leighton.

An account of the actual nature of religion as shown in its chief historical and psychological phenomena, and an interpretation of its significance for culture and the truth of its leading conceptions.

121-122. Metaphysics. Three credit hours. The year. Prerequisite, at least one year's work in philosophy and in psychology or a natural science. Mr. Leighton.

*Not given in 1920-1921.

A systematic discussion of the fundamental problems of theoretical philosophy; the meaning of truth and its relations to reality, the philosophy of nature, and of the human self, the problems of freedom, evil, immortality and theism.

*123-124. Representative Ancient Philosophers. Three credit hours. The year. Prerequisite, one year's work in philosophy and one year in a related subject. Mr. Chandler.

Selected works of Plato and Aristotle, with reference to their permanent significance for philosophy and politics.

125-126. Representative Modern Philosophers. Three credit hours. The year. Prerequisites, Philosophy 101-102 or 107-108. Mr. Chandler.

Selected works of Leibniz, Hume, Kant and Hegel will be studied with reference to their permanent significance.

Philosophy 123-124 and 125-126 will be given in alternate years.

117-118. Philosophy of Science. Two credit hours. The year. Prerequisites, one semester of philosophy and one year of science. Mr. Avey.

A critical and philosophical study for students of philosophy and of other departments, of the fundamental assumptions, principles and methods of the natural and social sciences.

*128. Realism. Three credit hours. Second semester. Prerequisite, Philosophy 101-102, 117, or 107-108. Course 108 may be taken concurrently with 128. Mr. Chandler.

A study of contemporary realism with especial reference to the work of Bertrand Russell, R. B. Perry and E. B. Holt.

134. Political and Social Philosophy. Two credit hours. First semester. Prerequisite, one year in philosophy or in biological science or in social science. Mr. Leighton.

The ethical values and aims involved in social institutions and their evolution with especial reference to the state, the family, economic activities, and education; an examination of the ethical and metaphysical problems involved in the relation of the individual to society, and the philosophy of history.

*Not given in 1920-1921.

*145-146. **Philosophy of History.** Two credit hours. The year. Prerequisites, any two of Philosophy 101, 105, 106, 111, 134, 107, 108 and one year's work in European history. Mr. Leighton.

A critical examination of the principal theological and philosophical theories of the meaning of history and human progress in the light of ethics and the philosophy of values, with a view to arriving at correct conceptions of the meaning of history and the fact and nature of progress, especially ethical and intellectual progress. The theories dealt with will be chiefly those of the Church fathers, of the German philosophers from Lessing to Nietzsche, Dilthey, Windelband, Rickert, Simmel and Eucken; and of Comte, Spencer, Buckle, Carlyle and contemporary English and American thinkers. Intended for students of literature, history, politics and sociology.

150. **Pragmatism.** Two credit hours. Second semester. Prerequisite, one year in philosophy or in biological science or in social science. Mr. Williams.

An account and critical estimate of the movement known as pragmatism and its later form, instrumentalism, with special reference to the works of William James, F. C. S. Schiller, and John Dewey.

141-142. **The Main Currents in Contemporary Philosophy.** Two credit hours. The year. Prerequisite, one year in philosophy. Mr. Chandler.

A non-technical account and estimate of the chief formative influences in the reflective life of the present time. Intended for students of literature, science and social movements.

138-139. **The Development of Thought in the Eighteenth and Nineteenth Centuries.** Three credit hours. The year. Not open to freshmen. Mr. Williams.

A history of the development of philosophy in the past two centuries, with especial reference to its interaction with economic, political and literary ideas.

*147-148. **An Introduction to Oriental Philosophy.** Two credit hours. The year. Prerequisite, Philosophy 101, 102, 105, 107 or 108. Mr. Avey.

*Not given in 1920-1921.

An introduction to the philosophical doctrines that have been most influential in the thought of India, China and Japan.

FOR GRADUATES

201-202. Seminary in Philosophy.

207-208. Contemporary Philosophical Issues.

209-210. Discussion of Current Philosophical Literature.

For description of graduate courses in this department see the Bulletin of the Graduate School.

PHYSICAL EDUCATION

Office, The Gymnasium

MEN

PROFESSORS ST. JOHN, WILCE, CASTLEMAN, AND NICHOLS,
ASSISTANT PROFESSOR TRAUTMAN, MR. OHLSON

101-102. Physical Education. One credit hour. The year. Two hours each week. Required of all freshmen in this college. During the first semester the course consists of one lecture on personal hygiene and one period of active physical exercise each week.

Personal Hygiene: Lectures and quizzes on the cause, prevention, and hygienic treatments of the common preventable diseases and conditions which lower the vitality and interfere with the health and efficiency of the student.

Physical Exercise in Class: A graded course of free-hand exercises, with light hand apparatus for the relief and correction of slight bodily defects, improper carriage; graded progressive exercises, to promote muscular tone, organic vigor, bodily skill; class dancing, gymnastic and athletic games and contests.

WOMEN

ASSISTANT PROFESSOR MEYER, MISS SCOFIELD, MISS RANCK

131-132. Physical Education. One credit hour. The year. Four hours each week. Required of all women students during the first year of attendance at the University.

Lectures on personal hygiene.

Gymnasium Exercises: Elementary Swedish gymnastics, calisthenics, drills with wands, Indian clubs, etc. Folk dances, technique of esthetic dancing, and gymnastic games.

Recreative games and sports.

133-134. Physical Education. One credit hour. The year. Four hours each week. For second year students; required of all women students.

Lectures on principles of physical education.

Gymnasium Exercises: A continuation of Physical Education 131-132.

PHYSICS

Office, 107 Physics Building

PROFESSORS COLE, EARHART, BLAKE, AND ALPHEUS W. SMITH.
ASSISTANT PROFESSOR HEIL, MR. WOODBURY, MR. ALVA
W. SMITH, MR. DITTO, MR. SERVICE, MR. WARD,
MR. JARVIS, AND DEPARTMENT
ASSISTANTS

103-104. General Physics. Four credit hours. The year. Recitations, lectures and laboratory. A non-mathematical course for students who have no entrance credit in physics. Mr. Ditto, Mr. Service.

105-106. General Physics. Four credit hours. The year. Prerequisite, entrance credit in physics. Three recitations and one three-hour laboratory period. Mr. Earhart, Mr. Blake.

111-112. General Physics. Three credit hours. The year. Two recitations and two laboratory hours each week. Prerequisite, preparatory physics and Mathematics 132. All instructors.

First semester, mechanics and heat; second semester, electricity and light.

Physics 111 is given also during the second semester.

115-116. Physics Problems. Two credit hours. The year. Prerequisite, Mathematics 132 and a year's work in college physics. Mr. Woodbury.

Two recitations, covering problems in mechanics and heat, the first semester, and electricity and light the second semester.

121-122. Laboratory. Three to five credit hours. The year. Prerequisite, Physics 103-104 or 105-106. Mr. Heil.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

123-124. Advanced Laboratory. Three to five credit hours. The year. Prerequisite, Physics 121-122. Mr. Heil.

*143-144. Advanced Light and Electricity. Three credit hours. The year. Prerequisite, Physics 103-104 or 105-106, and Mathematics 141-142 or 127-128. First semester, light, Mr. Cole; second semester, electricity and magnetism, Mr. Earhart.

This course alternates with Physics 147-148.

Physics 143-144 and 147-148 together constitute a two-year cycle moderately advanced, covering the whole subject of physics.

145-146. Proseminary in Physics. One credit hour. The year. Prerequisite, two years of college work in physics or one year in physics and one in mathematics or chemistry. Mr. Cole.

147. Molecular Physics and Heat. Three credit hours. First semester. Prerequisites, Physics 103-104 or 105-106, and Mathematics 141-142 or 127-128. Mr. Earhart.

This course alternates with Physics 143-144.

148. Conduction of Electricity Through Gases and Radioactivity. Three credit hours. Second semester. Prerequisites, Physics 103-104 or 105-106, and Mathematics 141-142 or 127-128. Mr. Heil.

This course alternates with Physics 143-144.

169-170. Theory of Light. Two credit hours. The year. Prerequisite, Physics 105-106 and Mathematics 141-142, or equivalents. Mr. Cole.

An advanced course in light.

FOR GRADUATES

201-202. Research Laboratory.

*203-204. Theoretical Mechanics.

*205-206. Thermodynamics and Electrolytic Conduction.

207-208. Theory of Electricity and Magnetism.

*Not given in 1920-1921.

211-212. Theory of Oscillations with Applications to Wireless Telegraphy.

*213-214. Conduction of Electricity Through Gases and Radio-activity.

215-216. Electromagnetic Theory.

For description of graduate courses in this department see the Bulletin of the Graduate School.

PHYSIOLOGY, PHYSIOLOGICAL CHEMISTRY AND PHARMACOLOGY

Office, 104 Biological Hall

PROFESSORS BROOKS AND BLEILE, ASSISTANT PROFESSORS SEYMOUR AND McPEEK, MR. DURRANT, AND DEPARTMENT ASSISTANTS

Physiology 101-102 is the foundation course offered by the department and is prerequisite to advanced work. For Arts and Arts-Education students, or others who expect to teach in biological subjects, the following sequence of courses would seem desirable:

Courses 101-102 (accompanied by 137-138) followed by 115 and 118 or 106, and these courses succeeded by 109-110 or 111-112. Advanced laboratory courses should be preceded by or accompanied by advanced physics and chemistry courses. A foundation knowledge of comparative anatomy or of embryology will also prove helpful in advanced physiology.

Course 119-120 has been arranged to present the fundamental principles of physiology in a non-technical manner to students who have had no training in chemistry, but this course is not acceptable as a prerequisite for advanced work.

For pre-medical students, courses 101-102 (preferably accompanied by 103-104) or 132 followed by 118 are advised. More advanced courses are not ordinarily advantageous to the student expecting to enter medicine.

101-102. Physiology. Three credit hours. The year. Not open to freshmen. Must be preceded by a course in chemistry. Mr. Bleile, Mr. Seymour, Mr. Durrant.

A foundation course in the fundamental principles of animal physiology with application to the human body, including demonstrations in circulation, digestion, respiration, gross and minute anatomy, reflex action, and other simple phenomena of living organisms.

*Not given in 1920-1921.

137-138. Physiology Laboratory. One credit hour. The year. Must be accompanied by Physiology 101-102, which course it is intended to supplement by experimental work. One laboratory period of two hours each week. Mr. Durrant.

119-120. General Physiology. Three credit hours. The year. Not open to freshmen. Mr. Bleile.

A course similar to 101-102 open to students who have no credit in chemistry. (Students who have had chemistry will elect Physiology 101-102.) A course presenting the principles of physiology in a non-chemical manner.

106. Chemical Physiology. Four credit hours. Second semester. Mr. Bleile, Mr. Seymour, Mr. Durrant.

A laboratory course including lectures and recitations on the physiology of the body fluids, foods, digestions, absorption, excretion and metabolism.

132. General Physiology. Three credit hours. Second semester. Three lectures each week. Must be preceded by a course in chemistry. Mr. Seymour.

The course is designed for pre-medical students only.

Intended to familiarize the student preparing for medicine with the fundamental properties of living matter. Demonstrations of general biological phenomena.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

109-110. Physiological Laboratory. Three credit hours. The year. Mr. Bleile, Mr. Seymour, Mr. Durrant.

A laboratory course with conferences, recitations, and assigned readings. The content of the course varies from year to year, being primarily intended to familiarize the student with the technique of laboratory experimentation in the physiology of muscle, nerve, respiration, circulation and secretion.

111-112. Physiological Laboratory. Five credit hours. The year. Mr. Bleile, Mr. Seymour, Mr. Durrant.

Similar to 109-110, except carrying more credit hours and including a correspondingly greater number and variety of laboratory experiments.

115. Advanced Physiology. Three credit hours. First semester. Prerequisite, Physiology 101-102. Mr. Bleile.

Lectures, recitations and demonstrations on the physiology of circulation, digestion and respiration. May be profitably taken in conjunction with courses 109-110.

118. Advanced Physiology. Three credit hours. Second semester. Prerequisite, Physiology 101-102 or Physiology 132. Mr. Durrant.

Lectures, recitations and demonstrations on the physiology of the nervous system, including its development, structural relations, and functioning. A study of the neuron, reflex paths, reflex actions and their modification, and of the special and general sensations.

FOR GRADUATES

201-202. Advanced Physiology.

203-204. Research Work.

For description of graduate courses in this department see the Bulletin of the Graduate School.

POLITICAL ECONOMY

(See Economics and Sociology)

POLITICAL SCIENCE

Office, 206 Hayes Hall

PROFESSORS SPENCER AND COKER

101-102. Government in the United States and Europe. Three credit hours. The year.

A general survey of governmental institutions, national, state and local, in the United States and the leading countries of Europe. This course is not open to freshmen. It is strongly recommended that it be preceded by a year's work in college history. It should precede all other courses in this department.

Political Science 101 is given also during the second semester.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

113-114. Problems in International Politics. Two credit

hours. The year. Prerequisite, Political Science 133-134 or 101-102. Mr. Spencer.

The methods and ideals of diplomacy; current problems in the relations of World Powers; possibilities in the reconstruction of the society of nations after war; tendencies toward administrative, judicial and legislative world-organization.

Lectures, and reports for mutual criticism and discussion.

125. Introduction to Jurisprudence. Three credit hours. First semester. Prerequisite, Political Science 133-134, or 101-102. Mr. Spencer.

An introductory study of legal concepts. An attempt is made both to give the prospective law student an analytical and historical guide into his subject, and to give those who do not intend to pursue the study of law an idea of its significance in social organization, and its relation to political and economic science.

126. International Law. Three credit hours. Second semester. Prerequisite, Political Science 133-134, or 101-102. Mr. Spencer.

A study of the principles of international law in their growth and present status, with particular attention to unsettled points, and problems raised by the war.

106. Municipal Government. Three credit hours. First semester. Prerequisite, Political Science 133-134, or 101-102.

A comparative study of modern municipalities in the United States, Europe, England and South America; their social significance and governmental structure; their relation to the State in the law of municipal corporations; experience with government by council, mayor, commission, manager, popular participation and effective citizenship. The work is based on Munro's *Government of European Cities* and *Government of American Cities*; lectures, investigations and reports of particular cities.

130. Municipal Functions. Three credit hours. Second semester. Prerequisites, Political Science 133-134 or 101-102, 106.

A study of the functions of modern municipalities in the light of American and European experience. Comparative studies will be made of the organization, methods employed, policies and

problems of the functions of finance; health and sanitation; police and fire protection; education; street construction and city planning; housing; water supply; garbage and sewage disposal; public utilities; charities and corrections; recreation; and municipal ownership. Excursions will be made for examination of the actual operation of departments. Lectures and conferences will be given by those in charge of particular functions.

131. State Government. Two credit hours. First semester. Prerequisite, Political Science 133-134 or 101-102. Mr. Coker.

A study of the organization of American State Government: fundamental features of the structure and powers of the legislative, executive, and judicial departments, and all their interrelations; reforms in organization.

132. State Functions. Two credit hours. Second semester. Prerequisite, Political Science 133-134 or 101-102. Mr. Coker.

A study of the activities of American State Government: the scope, methods, and problems of state action in the fields of finance, labor, public order, public morals, regulation of business, and control of local government; the executive budget; the civil service; legislative and judicial procedure.

***109-110. State, County and Municipal Government in Ohio.** Two credit hours. The year. Prerequisite, Political Science 133-134 or 101-102.

This study covers the historical evolution and actual working of the state's governmental machinery and the particular functions which it performs. The course provides a groundwork for those preparing to teach civics or engage in public service, journalism or civic secretarial work.

115-116. History of Political Theories. Two credit hours. The year. Prerequisite, Political Science 133-134 or 101-102. Given biennially. Mr. Coker.

The development of leading ideas in politics will be traced from the time of the Greeks to the present.

117-118. Proseminary. Two credit hours. The year. Prerequisites, Political Science 133-134 or 101-102 and two other semester courses in the Social Science group. Mr. Coker.

*Not given in 1920-1921.

General topic for the year's work: Government in Relation to Industry.

*151-152. Methods of Governmental Research. Two credit hours. The year. Prerequisite, Political Science 133-134 or 101-102.

Direction and training of students in methods of gathering and presenting data in governmental problems. Lectures; assigned readings; field work consisting of excursions, individual studies and conferences; laboratory work in the Bureau of Governmental Research, Ohio Institute of Public Efficiency and Legislative Reference Bureau; correlation with civic associations and chambers of commerce.

FOR GRADUATES

201-202. Research in Political Science.

For description of graduate courses in this department see the Bulletin of the Graduate School.

PSYCHOLOGY

Office, 403 University Hall

PROFESSORS ARPS, PINTNER, AND WEISS, ASSISTANT PROFESSORS BRIDGES AND CRANE, MR. CULLER, MISS COY, MISS ROGERS, MR. BURTT, MISS HATCH, AND
DEPARTMENT ASSISTANTS

101-102. Elementary Psychology. Introductory course. Three credit hours. The year. All instructors.

Special sections are provided for pre-medical students. See Time Schedule.

Psychology 101 is given also during the second semester.

Psychology 102 is given also during the first semester.

A limited number of students may take Psychology 103-104 as equivalent to 101-102.

103-104. Elementary Psychology. Three credit hours. The year. Two lectures and one laboratory period each week. Mr. Weiss.

*Not given in 1920-1921.

This course meets the same requirements as Psychology 101-102. Designed for students who wish to perform some of the simpler psychological experiments in their elementary course.

The number of students admitted to this course is limited to forty.

111. Experimental Psychology. Introduction. Three credit hours. First semester. One lecture and two laboratory periods each week. Prerequisite, Psychology 101-102. Mr. Weiss.

A systematic training course in the psychological methods as applied to the sense fields. Topics: vision; audition; the cutaneous, olfactory, gustatory, kinesthetic and organic senses.

112. Experimental Psychology: Advanced. Three credit hours. Second semester. One lecture and four laboratory hours each week. Prerequisite, Psychology 104 or 111. Mr. Weiss.

A systematic training course in the psychological methods as applied to the more complex processes. Topics: perception, memory, attention, illusions, association and reaction time.

149-150. Physiological Psychology. Two credit hours. The year. Prerequisite, Psychology 101-102 or 103-104. Mr. Crane.

This course is adapted to meet the needs of medical students and those taking courses in abnormal psychology and the defective child. A more detailed consideration is given the nervous mechanism and the correlation of the nervous mechanism with mental phenomena.

Topics: nervous elements and their functions; end organs and their functions, cerebral functions, correlation of sensation, perception, feeling, emotion, memory, with the nervous mechanism.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

114. Mental and Social Measurements. Two credit hours. Second semester. Prerequisite, Psychology 101-102 or 103-104. Not open to freshmen and sophomores. Mr. Burt.

A course designed to meet the needs of those students who expect to carry on investigation in psychology, education and the social sciences. Topics: standard methods of handling data;

computation of averages, deviations and correlations, graphical representation; grading and marking systems.

115-116. Genetic Psychology and Child Study. Two credit hours. The year. Prerequisite, Psychology 101-102 or 103-104. Not open to freshmen and sophomores.

Psychology 115 treats of the development of mind together with the laws and principles which govern this development in the child. Psychology 116 treats of the various problems of child study and the child mind which concern the home, school and society.

118. Perception and Behavior. Two credit hours. First semester. This course alternates biennially with Psychology 153. Prerequisite, Psychology 104 or 111. Not open to freshmen and sophomores. Mr. Weiss.

A consideration of the simplest assumptions necessary and sufficient to explain the facts of human behavior as dependent on, the original nature of man, the function of the nervous system, and the interaction among individuals.

119. Animal Psychology. Two credit hours. First semester. Prerequisite, Psychology 101-102 or 103-104. Mr. Burt.

A survey of animal mind and behavior from one-celled organisms to the anthropoid apes. The topics studied will include sensation, instinct, learning and intelligence, with especial reference to methods as well as results.

121. Abnormal Psychology. Four credit hours. First semester. Prerequisite, Psychology 101-102 or 103-104. Mr. Bridges.

The abnormal mental phenomena, viz., disorders of perception, association, memory, affection, judgment, action, volition and personality, with especial emphasis on their relation to the respective normal phenomena. The grouping of these disorders into the syndromes exhibited in the main types of insanity. Lectures, recitations and clinics.

122. The Defective Child. Four credit hours. Second semester. Prerequisite, Psychology 101-102 or 103-104. Mr. Pinter.

The varieties and grades of mental deficiency, including the backward child of the schools and the distinctly feeble-minded. The causes of the same. Lectures, recitations and clinics.

124. Psychopathology. Two credit hours. Second semester. Prerequisite, Psychology 121. Mr. Bridges.

The so-called borderland phenomena; sleep and dreams, psychopathology of everyday life, hypnosis and the hypnotic state, hysteria, psychasthenia, neurasthenia, and the constitutional psychopathic states. Considerable attention will be given to the various interpretations of these phenomena. Lectures, recitations and reports.

125. Social Psychology. Three credit hours. First semester. Prerequisite, Psychology 101-102 or 103-104. Mr. Arps.

The nature and variety of innate tendencies; the relation of these tendencies to acquired behavior and social control; the development of personality.

126. Folk Psychology. Three credit hours. Second semester. Prerequisite, Psychology 101-102 or 103-104. Mr. Arps.

The psychic factors involved in various group activities which apply to the problems of education, religion and social aims.

127. Industrial Psychology. Two credit hours. Second semester. Prerequisite, Psychology 101-102 or 103-104. Lectures, recitations, reports. Mr. Bridges.

The application of psychology to the following problems: vocational guidance, selection of industrial workers, industrial learning and training, the adaptation of technical to mental conditions, industrial monotony, fatigue, rest, and the length of the working day.

128. Psychology of Advertising. Two credit hours. First semester. Prerequisite, Psychology 101-102 or 103-104. Mr. Crane.

A psychological study of the mediums employed in effective advertising. The types of appeal; the nature and laws of effective appeal. The relation of instincts, memory, feelings and

emotions to effective advertising. Lectures, reports and investigations of practical problems in the laboratory.

131. Advertising Laboratory. One or two credit hours. First semester. Prerequisite, Psychology 101-102, or 103-104, and 128, either taken previously or concurrently. Mr. Crane.

General and special problems illustrating the application of laboratory methods, and the treatment and use of experimental data in the field of advertising.

129. Advanced Psychology. Two credit hours. First semester. Prerequisite, Psychology 101-102 or 103-104. Mr. Arps.

This course is intended for students who desire a more detailed knowledge of the normal mental processes than is possible in an introductory course. A course fundamental to all fields of psychology and philosophy and to allied fields which involve human behavior. This course is mainly a consideration of the cognitive processes.

138. Psychology of Emotion and Volition. Two credit hours. Second semester. Prerequisite, Psychology 129. Mr. Arps.

A study of the various theories of feeling and emotion; the relation of the effective processes to the life of cognition; theories of volition; determination; sources of action; diseases of the will and their relation to social problems.

133-134. Mental Tests. Three credit hours. The year. Prerequisite, Psychology 112 or 107-108 or 121-122. Mr. Pintner.

Practical laboratory work in the application of all kinds of psychological tests and educational scales.

Adapted to meet the individual needs of all prospective teachers or those desiring practice in applying the Binet scale and other scales for mental classification.

139-140. History of Psychology. Two credit hours. The year. Given biennially. Offered in 1920-1921. Prerequisite, Psychology 129 and 138 or the permission of the instructor. Mr. Burtt.

The course aims to view modern psychological problems in the light of their historical antecedents. The development of various theories such as those of sensation, attention, space perception and emotion will be traced from earliest times to the present. As far as possible assignments will involve reference to original sources.

141-142. Minor Problems. Two to four credit hours. The year. Prerequisite, at least twelve hours in psychology.

Investigation of minor problems in the various fields of psychology.

147-148. The Psychological Clinic. One or two credit hours. The year. Prerequisite, permission of the instructor. Mr. Pintner.

Practical work in the diagnosis of defective and exceptional children.

151-152. Criminal and Legal Psychology. Two credit hours. The year. Prerequisite, Psychology 101-102 or 103-104. Not open to freshmen and sophomores. This course is especially recommended for students preparing for law. Mr. Crane.

A critical presentation of the evolution of the present-day psychological conception of crime, with a study of the neurological basis of, and the nature of the stimuli to, anti-social behavior. There will be both a critical and an experimental study of the psychological principles applied to the problems of testimony, those underlying recently advocated reforms in legal procedure, and the technique and reliability of suggested psychological methods for the detection of criminals.

***153. Theoretical Psychology.** Two credit hours. First semester. Alternating biennially with Psychology 118. Prerequisite, at least two years in psychology. Mr. Weiss.

Lectures and assigned readings from Poincare, Pearson, Mach, Avenarius. The evolution of modern psychology as influenced by the development of the natural sciences with special emphasis on the nature of psychological problems, experiments and laws.

***155. The Treatment of Exceptional Children.** Two credit hours. First semester. Prerequisite, Psychology 101-102 or 103-104, and permission of the instructor. Not open to freshmen and sophomores. Given biennially.

The aim of the course is to give an understanding of the special classes of children, and training for prospective teachers of exceptional children, both superior and inferior types. Topics:

*Not given in 1920-1921.

sensory defects, speech defects, nervous irritability, the psychopathic, special intellectual defects, moral eccentricities. Lectures, reports and practical work with children in the public schools.

FOR GRADUATES

201-202. Major Research.

203-204. Seminary in Psychology.

205-206. Contemporary Psychological Literature.

For description of graduate courses in this department see the Bulletin of the Graduate School.

PUBLIC HEALTH AND SANITATION

PROFESSOR HAYHURST

113. Personal Hygiene. Two credit hours. First semester. Two lectures or recitations each week. Mr. Hayhurst.

Component systems of the human body are considered from the point of view of their functions, toleration and adaptation limits, habit effects, normal and abnormal states with signs and indications thereof, common diseases with their prophylaxis and the principles of emergency treatments.

This course aims, in a non-technical manner, to point out the principles for maintaining personal health and efficiency.

121. Public Health Problems. Two credit hours. Either semester. Two lectures or recitations each week. Mr. Hayhurst.

This course includes an elementary consideration of the various public health problems which present themselves. Consideration is given the question of the prevention of unnecessary infant mortality, the physical supervision of school children, the provision and the protection of the public water and food supplies, the proper elimination of wastes, the sociological aspects of public health work, including especially the question of the elimination of tuberculosis. Limited instruction is given on the matter of quarantine regulation, disinfection, and in the control of communicable diseases.

122. Industrial Hygiene. Two credit hours. Second semester. Two lectures or recitations each week. Mr. Hayhurst.

This course is designed strictly for undergraduates who are preparing themselves for general work in connection with manufacturing plants and various industries. The course consists of didactic work, lectures and demonstrations dealing with the various health hazards which operate in connection with the various industries. The question of ventilation, temperature, humidity, illumination, fatigue and inactivity will be considered. Some consideration will be given the question of industrial poisons and occupational diseases, as well as the prevention of accidents. The preventive medical phases of industrial hygiene will also be given careful consideration, including a discussion of the physical examination of employees and the general medical and social supervision of manufacturing plants.

RHETORIC AND ENGLISH LANGUAGE

(See English)

ROMANCE LANGUAGES AND LITERATURES

Office, 104 Hayes Hall

PROFESSORS BOWEN AND INGRAHAM, ASSISTANT PROFESSORS HAMILTON, CHAPIN, HACKER, GUTIERREZ, WILLIAMS, HAVENS, AND ROCKWOOD, MR. BERTHEMY, MR. TAILLIART, MISS HIER, MR. HADDOX, MR. MASSO, MR. SLOAN, MR. SMITH, MISS BROWN, MR. MOORE, MRS. PEARSON, MISS SCHONS, AND DEPARTMENT ASSISTANTS

French 101-102, 103-104 must precede all other courses in French, except French 106. French 111, 112 and 119-120 must be preceded by French 131-132, 109, and 110, or an equivalent.

The undergraduate courses offered in French, and to some extent in Spanish, beginning with third-year collegiate work, fall into two general groups: (1) literary; (2) linguistic and practical; so that students may emphasize one or both of these lines of study. For students who enter with two years of high school French and who desire to major in French, the following outline course is recommended:

First year: French 103-104.

Second year: French 131-132 and 109-110.

Third year: French 125-126, 111-112 and 113-114 or 115-116.

Fourth year: French 119-120, 122 (see Bulletin of College of Education), and 123-124.

FRENCH

101-102. Elementary French. Four credit hours. The year. Grammar: Fraser and Squair's, or equivalent. Reader: Aldrich and Foster's, or Bowen's First Scientific. Historical and narrative prose; one or more prose comedies. All instructors.

Stress is laid first upon the acquisition of a correct pronunciation, after which the energy of the student is directed toward the attainment of (1) an accurate reading knowledge of the language, and (2) facility in speaking and understanding it. Grammar and composition are made to contribute to these ends.

French 101 is given also during the second semester.

French 102 is given also during the first semester.

103-104. Modern French Literature. Four credit hours. The year. Prerequisite, French 101-102 or an equivalent. All instructors.

The work of the year deals with the following subjects: (1) Contes; (2) The novel (Balzac or Hugo); (3) Lyric poetry; (4) Romantic drama (Hugo). Prose composition, with practice in speaking. Systematic attention given to syntax and idiom. Lectures supplement the work. Private reading required.

French 103 is given also during the second semester.

106. Science Reading. Four credit hours. Second semester. Prerequisite, French 103. Mr. Berthemy.

A course of rapid reading introductory to the vocabulary of scientific literature.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

Students intending to major in French are urged to elect the following courses outside the department: European History 121-122 and Greek 141.

109. Seventeenth Century Drama: Molière and Corneille. Three credit hours. First semester. Mr. Bowen, Mr. Rockwood.

Lectures on the growth of French comedy and tragedy. Critical study of representative plays of Molière, Regnard, and Corneille. Collateral reading. Assigned topics and reports.

110. Seventeenth Century Tragedy and Prose. Three credit hours. Second semester. Mr. Bowen, Mr. Rockwood.

Representative dramas of Racine; Hachett's Théâtre Choisi de Racine. Study of Descartes, Pascal, La Bruyère, and others; Warren's Selections. Lectures, with collateral reading and reports.

111. Eighteenth Century Drama. Two credit hours. First semester. Prerequisite, French 109 and 110. Mr. Hacker.

Lectures on French comedy after Molière, with work centering on Marivaux and Beaumarchais. Study of the drama of Voltaire. Collateral reading and reports.

112. Nineteenth Century Drama. Two credit hours. Second semester. Prerequisite, French 109 and 110. Mr. Hacker.

Tendencies of French drama during the nineteenth century, with especial reference to Scribe, Augier, Dumas fils, and Sardou. Lectures, with collateral reading and reports.

113. Recent French Prose. Two credit hours. First semester. Given biennially, alternating with French 115. Mr. Williams.

Rapid reading, with lectures. Selections from the works of such writers as Bazin, Bourget, Loti, Bordeaux.

*114. Practice in Speaking and Writing French. Two credit hours. Second semester. Given biennially, alternating with French 116. Mr. Berthemy.

*115. Eighteenth Century Prose. Two credit hours. First semester. Given biennially, alternating with French 113. Mr. Bowen.

Selections from Voltaire (ed. Cohn and Woodward), Rousseau, and others.

*116. Advanced Conversational Practice. Two credit hours. Second semester. Given biennially, alternating with French 114. Mr. Berthemy.

119-120. Old and Middle French. Two credit hours. The year. Mr. Hacker.

Studies in Old French (with emphasis on la Chanson de Roland) and in the language and writers of the sixteenth century. Special consideration of Montaigne.

*Not given in 1920-1921.

123. French Phonetics. Two credit hours. First semester. Prerequisite, three years of collegiate French or the equivalent. Mr. Hacker.

The formation of French sounds. Lectures, with exercises in the use of the symbols of the International Phonetic Association. A systematic study of the rules of French pronunciation. Careful drill in the reading of French. Designed for advanced students who expect to teach French.

124. Review of French Syntax. Two credit hours. Second semester. Prerequisite, three years of collegiate French or the equivalent. Mr. Hacker.

A careful elucidation of French grammar, with composition to illustrate. Designed for advanced students who expect to teach French.

125-126. History of French Literature. Two credit hours. The year. Mr. Rockwood.

This course is conducted in French. A survey of French literature. Assignment of special topics and authors to be reported on in French.

131-132. Advanced French Composition and Conversation. Two credit hours. The year. Mr. Tailliant or Mr. Berthemy.

This course is conducted in French. Original essays and reports in French. Dictation. The geography and history of France will be given special attention.

ITALIAN

101-102. Elementary Italian. Four credit hours. The year. Mr. Williams.

Grandgent's or Young's Grammar and Bowen's Reader. Modern prose. Comedies of Goldoni.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

103. The Italian Novel. Two credit hours. First semester. Prerequisite, Italian 101-102. Mr. Williams.

Manzoni (*I Promessi Sposi*, and others). Lectures.

104. Dante. Two credit hours. Second semester. Prerequisite, Italian 103. Mr. Williams.

Selections from the Inferno and Paradiso. Lectures.

SPANISH

101-102. Elementary Spanish. Four credit hours. The year.

The elements of Spanish grammar with abundant oral and written exercises. Elementary reading as a basis for oral and written practice. All instructors.

Spanish 101 is given also during the second semester.

103-104. Intermediate Spanish. Four credit hours. The year. Prerequisite, Spanish 101-102 or an equivalent. Mr. Gutierrez, Mr. Chapin.

A more comprehensive survey of the form and syntax with more advanced reading as a basis for practice in speaking and writing.

110. Commercial Reading and Correspondence. Four credit hours. Second semester. Prerequisite, Spanish 103. Mr. Chapin.

A course designed to familiarize students with the vocabulary of business and with the forms of Spanish commercial paper and correspondence.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

Students intending to major in Spanish are urged to elect the following courses outside of the department: American History 126, Greek 141 and German 175.

105-106. Advanced Spanish. Three credit hours. The year. Prerequisite, Spanish 103-104 or 110. Mr. Ingraham.

A study of Spanish syntax with illustrative exercises. Rapid reading of modern novels and plays.

107-108. Classical Spanish Literature. Two credit hours. The year. Prerequisite, Spanish 105-106. Mr. Ingraham.

Rapid reading of ballads and classical novels and dramas. Lectures on the history of Spanish literature.

113-114. Advanced Composition and Conversation. Three credit hours. The year. Prerequisite, four semesters of college Spanish or an equivalent. Mr. Gutierrez.

This course, conducted wholly in Spanish, is designed especially for prospective teachers and for persons desiring a practi-

cal command of the language. The subject matter will be in large part the geography and history of Spain and Spanish-America.

ROMANCE LANGUAGES

FOR GRADUATES

*201-202. Introduction to Romance Philology.

*203-204. Old Provençal.

205-206. History of the Literary Movements in France in the First Half of the Nineteenth Century.

*207-208. Research in French Literature.

209-210. Research in Spanish Literature.

211-212. Old Spanish.

213. Nineteenth Century French Lyric.

*215. Seminary in Molière.

*216. Seminary in Molière and his Successors.

217-218. Seminary in French Literature.

For description of graduate courses in this department see the Bulletin of the Graduate School.

SOCIOLOGY

(See Economics and Sociology)

SPANISH

(See Romance Languages and Literatures)

ZOOLOGY AND ENTOMOLOGY

Office, 101 Botany and Zoology Building

PROFESSORS OSBURN, OSBORN, AND METCALF, ASSOCIATE PROFESSOR HINE, ASSISTANT PROFESSORS BARROWS AND KRECKER, MR. KOSTIR, MR. KENNEDY, MR. WICKLIFF, AND DEPARTMENT ASSISTANTS

ZOOLOGY

101-102. Elementary Zoology. Three credit hours. The year. Lectures and laboratory. Mr. Osburn, Mr. Barrows, Mr. Krecker, Mr. Kostir, Mr. Wickliff, and assistants.

*Not given in 1920-1921.

An introductory general course intended to give an acquaintance with animal life and the principles of biology and to serve as a foundation for more advanced courses.

Zoology 101 is given also during the second semester.

115. General Principles of Heredity. Three credit hours. Either semester. Three lectures each week. Prerequisite, Zoology 101-102 or Botany 101-102 or equivalent. Mr. Barrows.

A study of heredity in animals and plants to serve as an introduction to heredity as a basis for advanced work in plant and animal breeding and as an aid in the analysis of biological and sociological problems into which the question of heredity enters. The subject will be presented in lectures, illustrated with lantern slides and actual specimens. Exercises in the form of problems will be assigned. The different types of heredity studied will be chosen from the animal and plant material which best illustrates the subject. Hereditary characters found in man will be used to a large extent. The course will be made as simple and practical as the subject will permit. Present-day theories and technical applications will be left for discussion in the more advanced courses to which they properly belong.

118. Animal Parasites. Three credit hours. Second semester. Prerequisite, Zoology 101-102, or equivalent. Mr. Kreckler.

A course in the animal parasites which infest the domestic and other common animals, and man. Attention is given to the influence of the parasites upon their hosts, their relation to disease, their identification and general condition of life. Two lectures and one laboratory period each week.

This course is intended to be of particular benefit to agricultural and medical students, but it also serves as an introduction to the study of parasitism for those specializing in zoology.

The insect parasites are not treated in this course. For this work see Entomology 149.

121-122. Advanced Zoology of Invertebrates. Three credit hours. The year. One lecture and two laboratory periods each week. Prerequisite, Zoology 101-102 or equivalent. Mr. Kostir.

A study of the structure, life histories, habits and relationships of invertebrate animals together with the consideration of important biological principles. Lectures, laboratory exer-

cises, and occasional field trips. Recommended as a second-year course for students specializing in zoology.

123. Microtechnic. Two credit hours. First semester. Two laboratory periods. Prerequisite, Zoology 101-102 or equivalent. Mr. Kostir.

A course in the theory and practice of microscopic methods, including fixing, embedding, sectioning, and staining of animal tissues, making permanent preparations, and special manipulation of microscopic accessories. Laboratory work, assigned readings and conferences. This course is designed for students intending to major in zoology or those intending to teach in secondary schools.

131-132. Evolution. Three credit hours. The year. Prerequisite, one year of zoology or an equivalent. Mr. Osburn.

The facts and theories of the origin, development, and distribution of animal life. The general order of treatment is: historical aspects, evidences, factors and modern theories. The relation of evolutionary doctrine to practical problems is emphasized.

139. Ornithology. Two credit hours. First semester. Prerequisite, one year in biology. Mr. Hine.

The anatomy of the birds and a study of museum specimens.

140. Ornithology. Two credit hours. Second semester. Field work. Prerequisite, one year in biology. Mr. Hine.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

124. Animal Tissues. Two credit hours. Second semester. Two laboratory periods each week. Prerequisite, Zoology 121-122 or equivalent. Mr. Osborn, Mr. Kostir.

A comparative study of the origin and evolution of different types of cells and tissues in the animal kingdom. Dahlgren and Kepner's *Principles of Animal Histology* will be used as a guide. Laboratory work, assigned readings and conferences.

129-130. Advanced Studies in Animal Heredity. Three credit hours. The year. Prerequisite, Zoology 115. Mr. Barrows.

Part of the work of this course will be devoted to a study of recent advances in the field of animal genetics, but a large part

of the work will consist in the breeding of animals in the laboratory and in the analysis of the data obtained.

141-142. Minor Investigations. Three to five credit hours. The year. Prerequisite, Zoology 101-102, and the equivalent of 121-122, or Entomology 107-108. Mr. Osburn, Mr. Osborn, Mr. Metcalf, Mr. Hine, Mr. Barrows, Mr. Krecker.

*153-154. Animal Behavior. Two to five credit hours. The year. Prerequisite, Zoology 101-102 or equivalent and another year of biology. Given biennially. Mr. Barrows.

Devoted to a study of the functions of the various parts of the nervous systems of the invertebrates and vertebrates with emphasis on the mechanics of adjustment to heat, light, chemical and mechanical stimulation. Considerable time will be spent on experiments with living worms and insects. Lectures and laboratory work.

159. Animal Ecology. Three credit hours. First semester. One lecture and four hours in field or laboratory each week. Prerequisite, Zoology 101-102 and one additional year of a biological science. Mr. Krecker.

An introduction to a study of animals in their natural surroundings which will include ponds, streams, fields and woodlands, animal associations and the various factors which affect animals in relation to their environment.

Students who desire to continue the subject in the second half of the year can take up some particular phase of the work and should register in Zoology 142 for the second semester.

This course is recommended to students who expect to teach biology.

FOR GRADUATES

201-202. Seminary in Zoology.

223-224. Invertebrate Embryology.

241-242. Research Work.

247-248. Invertebrate Zoology.

For description of graduate courses in this department see the Bulletin of the Graduate School.

*Not given in 1920-1921.

ENTOMOLOGY

107-108. Economic Entomology. Three credit hours. The year. Prerequisite, Zoology 101-102 or equivalent. An elementary course. Mr. Metcalf, Mr. Kennedy, and assistants.

The structure, physiology, development and habits of insects, as a basis for insect control and for special study in entomology; followed by a general systematic survey of insects, mites and ticks with special attention to destructive and beneficial species and the control of those injurious to farm, orchard, garden, forest, household, mill and storehouse and the health of man and domestic animals.

Lectures, quizzes, problems and laboratory work on general anatomy, life-stages, field observations of habits and damage and the preparation and application of remedial measures. Students are required to prepare a collection. Those desiring to collect specimens in advance should get printed instructions from the department.

FOR ADVANCED UNDERGRADUATES AND GRADUATES

137-138. Advanced Entomology. Three to five credit hours. The year. Mr. Metcalf, Mr. Kennedy.

Advanced practical course dealing with morphology, development, biological relations, and principles of classification, for those wishing to investigate some special groups of insects or to fit themselves for professional work in entomology.

141-142. Minor Investigations. Three to five credit hours. The year. Prerequisite, Zoology 101-102, and the equivalent of 121-122, or Entomology 107-108. Mr. Osburn, Mr. Osborn, Mr. Metcalf, Mr. Hine, Mr. Barrows, Mr. Kreckler, Mr. Kennedy.

149. Medical and Veterinary Entomology. Three credit hours. First semester. Prerequisites, Zoology 101-102 and either 121-122 or Entomology 107-108, or equivalent. Given biennially. Mr. Metcalf.

The insects, mites and ticks which cause or transmit diseases of man and domestic animals; the sources of infection, methods of transmission and interrelations with pathogenic bacteria and protozoa; the relations of the subject to parasitology, bacteriology, veterinary medicine, sanitary engineering and public

health; field observations of insanitary conditions, practice in feeding, breeding and handling experimental insects and practical problems in the control of parasites and insect-borne diseases.

The student is advised if possible to precede this course with Zoology 118.

162. Morphology and Development of Insects. Four credit hours. Second semester. Prerequisite, Zoology 101-102, and either Zoology 121-122 or Entomology 107-108, or equivalent. Mr. Kennedy.

An advanced comprehensive course on the internal structures of insects, together with what is known of their functions; morphology, histology, histogenesis, embryology and metamorphosis.

This course parallels the work of Entomology 113-114 and 137-138, with emphasis on internal structure and functions.

FOR GRADUATES

201-202. Seminary in Entomology.

241-242. Research Work.

For description of graduate courses in this department see the Bulletin of the Graduate School.

TIME SCHEDULE

COLLEGES OF ARTS AND EDUCATION

The following courses and sections are intended primarily for students in the Colleges of Arts and Education. Assignment to sections will be made strictly according to the order of receipt of the election cards and students will be admitted to the sections they elect provided those sections are not already filled.

Students from the Colleges of Arts and Education must not elect courses not listed under the Departments of Instruction without first consulting the secretary of their college.

Explanations

The two columns of figures under Course No. give the number of the course for the two semesters. The third column of figures indicates the number of credit hours per semester of the course.

KEY TO ABBREVIATIONS

- Bi.—Biological Building
- B. Z.—Botany and Zoology Building
- Br.—Brown Hall
- Ch.—Chemistry Hall
- G.—Gymnasium
- Ha.—Hayes Hall
- H. E.—Home Economics Building
- H. F.—Horticulture and Forestry Building
- L.—Library
- Lo.—Lord Hall
- Obs.—Observatory
- O.—Orton Hall
- P.—Page Hall
- Pav.—Judging Pavilion
- Ph.—Physics Building
- R. L.—Robinson Laboratory
- S.—Shops Building
- T.—Townshend Hall
- U.—University Hall
- V. C.—Veterinary Clinic
- V. L.—Veterinary Laboratory

L.—Lecture; Q.—Quiz; Lab.—Laboratory; R.—Recitations.

AGRICULTURAL CHEMISTRY AND SOILS

AGRICULTURAL CHEMISTRY

Course No.	Hours	Time	Room	Instructor
—123	4	L., Tu., at 9	T. 205	Ly an
		Tu., at 2	T. 205	
		Q., Th., at 9	T. 205	
		Th., at 2	T. 205	
		Lab., M., W., 8 to 11	T. 210	
		M., W., 1 to 4	T. 210	

AMERICAN HISTORY

101—102	3	M., W., F., at 8	U. 205	All Instruc- tors
		M., W., F., at 8	L. 107	
		Tu., Th., S., at 8	U. 209	
		M., W., F., at 9	U. 205	
		M., W., F., at 9	L. 107	
		Tu., Th., S., at 9	U. 205	
		M., W., F., at 10	U. 205	
		M., W., F., at 10	L. 107	
		Tu., Th., S., at 10	U. 209	
		M., W., F., at 1	U. 205	
		M., W., F., at 1	U. 209	
		M., W., F., at 2	U. 205	
		M., W., F., at 2	U. 209	
		M., W., F., at 3	U. 205	
		M., W., F., at 3	U. 209	
102—101	3	M., W., F., at 1	U. 202	Wood Boucher Boucher Hockett Wittke Hockett Knight Knight Hockett Wittke Knight Knight, Hock- ett, Boucher
		Tu., Th., S., at 10	L. 107	
102—104	3	M., W., F., at 3	U. 202	
109—110	2	Tu., Th., at 8	U. 205	
111—112	3	M., W., F., at 10	U. 209	
115—116	3	M., W., F., at 2	U. 202	
—118	2	Tu., Th., at 9	U. 209	
119—	2	Tu., Th., at 3	U. 209	
121—	2	Tu., Th., at 2	U. 209	
123—124	3	M., W., F., at 9	U. 209	
—130	2	Tu., Th., at 3	U. 205	
133—	2	Tu., Th., at 9	U. 209	
203—204	2	Tu., Th., at 3	L. 303	
205—206	2	M., 3 to 5	L. 303	

ANATOMY

101—102	3 or 5	L., M., at 1	Bio. 102	Baker
		Lab., M., Tu., W., 1 to 4		
103—104	3 to 5	L., W., at 1	Bio. 107	Landacre
		Lab., W., Th., F., 1 to 4		

ANATOMY—Continued

Course No.	Hours	Time	Room	Instructor
105—106	3 to 5	To be arranged	Bio. 102	Baker
107—108	3 to 5	L., Tu., at 4 Lab., M., Tu., 1 to 4	Bio. 102	Knouff
109—110	3 to 5	To be arranged	Bio. 106	Landacre
111—112	1	M., at 4	Bio. 101	Landacre
113—114	3 to 5	To be arranged	Bio. 107	Landacre
—116	3	To be arranged		
—118	3 to 5	L., Tu., at 8	Bio. 100	Landacre
(pre-med)		Th., at 1	Bio. 102	Baker, Knouff
		Lab., Tu., 9 to 11		
		Th., 8 to 11		
		Tu., 1 to 4		
		Th., 2 to 4		
		For 5 hrs. credit F., 1 to 4 additional		
119—120	3 to 5	To be arranged		Baker
121—	6	Tu., W., Th., F., 1 to 5	Park St. 410	Buck
—122	4	Tu., W., Th., 1 to 5	Park St. 410	Buck
125—	4	W., F., 1 to 5	Park St. 409	Smith
—126	4	W., F., 1 to 5	Park St. 409	Smith
127—	3 to 5	L., W., F., at 8 Lab., W., 9 to 12	Park St. 410	Buck
—131	2	To be arranged	Park St. 410	Buck
133—	6	L., M., W., F., at 8 M., at 1	Park St. 400	Landacre, Baker,
		Lab., M., W., F., 9 to 12	Park St. 413	Knouff
—134	4	To be arranged		Landacre, Baker
—136	4	L., M., W., F., at 8 M., at 1	Park St. 400	Landacre
		Lab., M., W., F., 9 to 12	Park St. 408	Buck
		F., 1 to 5	Park St. 413	
139—	3	L., W., F., at 3	Park St. 400	
		Lab., F., 9 to 12	Park St. 413	
—140	2	L., Th., at 8	Park St.	Baker
		Lab., F., 9 to 12		
—142	4	L., M., F., at 8	Bio. 100	Knouff
		Lab., W., 1 to 5		
143—	5	L., M., W., F., at 1	Bio. 100	Knouff
		Lab., M., W., F., 2 to 4		
145—	4	To be arranged		Landacre
149—150	3 to 5	To be arranged	Park St. 413	Knouff
—152	3	To be arranged	Park St. 410	Landacre, Buck
—154	1	Tu., 8 to 10	Park St.	Baker
201—202	3 to 5	To be arranged		Landacre
203—204	5 to 10	To be arranged		

ART

Course No.	Hours	Time	Room	Instructor
117—	3	M., W., F., at 3	Ha. 201	Robinson
119—119	1	M., at 4	Ph. 200	Kelley
121—	2	M., W., 1 to 3	Ha. 201	Knauber
—121	2	M., W., 1 to 3	Ha. 201	Knauber
131—	2	M., W., 8 to 10	Ha. 303	All Instructors
		M., W., 1 to 3	Ha. 303	
		Tu., Th., 8 to 10	Ha. 303	
		Tu., Th., 10 to 12	Ha. 303	
		Tu., Th., 1 to 3	Ha. 303	
		F., S., 8 to 10	Ha. 303	
—131	2	M., W., 8 to 10	Ha. 303	
		Tu., Th., 1 to 3	Ha. 303	
132—	2	M., W., 1 to 3	Ha. 300	All Instructors
		Tu., Th., 1 to 3	Ha. 303	
—132	2	Tu., Th., 8 to 10	Ha. 303	All Instructors
		Tu., Th., 10 to 12	Ha. 303	
		M., W., 9 to 11	Ha. 303	
		M., W., 1 to 3	Ha. 303	
133—	2	M., W., 9 to 11	Ha. 303	Norris
		Tu., Th., 9 to 11	Ha. 303	
—133	2	Tu., Th., 2 to 4	Ha. 303	Robinson
134—134	3	Tu., Th., 8 to 11	Ha. 303	Kelley
136—	2	M., W., 8 to 10	Ha. 303	Robinson
—136	2	M., W., 9 to 11	Ha. 303	Robinson
—137	3	Tu., Th., 8 to 11	Ha. 303	Robinson
138—	3	M., W., F., 1 to 3	Ha. 303	
—139	3	M., W., F., 1 to 3	Ha. 303	
141—	2	M., W., at 3	Ha. 204	All Instructors
		Tu., Th., at 9	Ha. 204	
—141	2	W., F., at 3	Ha. 204	All Instructors
		Tu., Th., at 10	Ha. 204	
		M., W., at 1	Ha. 204	
		Tu., Th., at 1	Ha. 204	
		Tu., Th., at 3	Ha. 204	
142—	3	Tu., Th., 1 to 3	Ha. 201	
—143	3	M., W., 1 to 3	Ha. 201	
—144	3	M., W., 2 to 4	Ha. 303	Norris
—145	3	To be arranged		
147—148	2	Tu., Th., 1 to 3	Ha. 303	Norris
151—152	3	M., W., F., at 10	Ha. 204	Kelley, Webber
153—	3	M., W., F., at 9	Ha. 204	Webber
—155	2	Tu., Th., at 2	Ha. 204	Webber
—158	5	To be arranged		Kelley
160—	3	M., W., F., at 3	Ha. 204	Kelley
—162	2	Tu., Th., 9 to 11	Ha. 300	
163—164	2	Tu., Th., 8 to 10	Ha. 303	

ASTRONOMY

Course No.	Hours	Time	Room	Instructor
101-102	2	M., W., F., at 8	Obs.	Lord, Manson
		M., W., F., at 1	Obs.	
104—	2	M., W., F., 9 to 11	Obs.	Lord, Manson
		M., W., F., 2 to 4	Obs.	
—105	2	Tu., 8 to 11; W., F., at 2	Obs.	Lord, Manson
		Th., 1 to 4; Tu., F., at 11	Obs.	
107-108	2 to 5	To be arranged	Obs.	Lord, Manson
109-110	4	To be arranged	Obs.	Lord
111-112	2 to 5	To be arranged	Obs.	Manson

BACTERIOLOGY

—102	2	L., Th., at 8	V. L. 101	Masters
		Lab., Th., 1 to 4	V. L. 201	Masters,
				Ockerblad
107—	4 or 5	L., M., W., at 9	V. L. 102	Morrey
		M., W., at 2	V. L. 102	Morrey
		Tu., Th., at 9	V. L. 102	Morrey
		Lab., M., W., 8 to 11	V. L. 201	Masters
			V. L. 205	Ockerblad
		M., W., 1 to 4	V. L. 201	Masters
			V. L. 205	Ockerblad
		Tu., Th., 8 to 11	V. L. 201	Masters
			V. L. 205	Ockerblad
		Tu., Th., 1 to 4	V. L. 201	Masters
			V. L. 205	Ockerblad
		Tu., Th., 8 to 11	V. L. 8	Watson
		M., S., 8 to 11	V. L. 8	Watson
—108	2 to 5	L., M., W., at 9	V. L. 102	Morrey
		M., W., at 2	V. L. 102	Morrey
		Lab., M., W., F., 8 to 11	V. L. 205	Masters,
				Ockerblad
		M., W., 1 to 4	V. L. 205	Masters,
				Ockerblad
—110	2 to 5	L., Tu., Th., at 11	V. L. 102	Morrey
		Lab., Tu., Th., 1 to 4	V. L. 205	Morrey
—112	2 to 5	L., Tu., Th., at 10	V. L. 102	Morrey
		Lab., W., F., 1 to 4	V. L. 201	Morrey
—114	2 to 5	L., Tu., Th., at 9	V. L. 102	Morrey
		Lab., M., W., 1 to 4	V. L. 201	Morrey
117-118	2 to 5	L., W., F., at 1	V. L. 101	Starin
		(Either semester)		
		Lab., M., S., 8 to 11	V. L. 8	Starin, Watson
		(Second semester only)		
119-120	2	L., M., F., at 11	V. L. 102	Starin
121-122	2 to 5	Tu., Th., 8 to 12	V. L. 8	Morrey
123-124	2 to 5	Tu., Th., 8 to 12	V. L. 8	Morrey

BACTERIOLOGY—Continued

Course No.	Hours	Time	Room	Instructor
125—126	2 to 5	Tu., Th., 8 to 12	V. L. 8	Starin, Morrey
131—132	4	L., W., F., at 8	V. L. 101	Starin
		Lab., W., F., 9 to 12	V. L. 8	Starin, Watson
141—141	7	L., M., W., F., at 1	V. L. 102	Morrey
		Lab., M., W., F., 2 to 5 and		
		Tu., Th., 1 to 5	V. L. 8	Starin, Watson
—150	4	L., M., W., at 10	V. L. 101	Morrey
		Lab., Tu., F., 1 to 4	V. L. 201	Masters,
				Ockerblad
		Tu., F., 1 to 4	V. L. 205	Masters,
				Ockerblad
		Tu., Th., 9 to 12	V. L. 205	Masters,
				Ockerblad
201—202		To be arranged		Morrey, Starin
203—204		To be arranged		Morrey, Starin

For Short Courses Only

51— 4 To be arranged

BIBLIOGRAPHY

101—102	1	Tu., at 3	L. 107	Jones
103—	½	Th., at 1	L. 107	Reeder
		Th., at 3	L. 107	Reeder
		M., at 11	L. 107	Reeder
		F., at 11	L. 107	Reeder
105—105	2	M., W., at 4	L. 107	Reeder

BOTANY

101—102	3	L., Tu., Th., at 3	B. Z. 208, 110	All Instructors
		Tu., Th., at 9	B. Z. 208, 110	
		Tu., Th., at 10	B. Z. 208, 110	
		Tu., Th., at 1	B. Z. 110, 208	
		Tu., Th., at 2	B. Z. 110, 208	
		Tu., Th., at 3	B. Z. 110, 208	
		Lab., M., 10 to 12	B. Z. 108	
		M., 1 to 3	B. Z. 108	
		Tu., 8 to 10	B. Z. 108	
		Tu., 1 to 3	B. Z. 108	
		W., 8 to 10	B. Z. 108	
		W., 1 to 3	B. Z. 108	
		Th., 8 to 10	B. Z. 108	
		Th., 1 to 3	B. Z. 108	
		F., 8 to 10	B. Z. 108	
		F., 1 to 3	B. Z. 108	

BOTANY—Continued

Course No.	Hours	Time	Room	Instructor
—101	3	L., M., W., at 2	B. Z. 110	
		Lab., M., 8 to 10	B. Z. 110	
—116	3	L., W., at 10	B. Z. 208	Stover
		Lab., M., F., 10 to 12	B. Z. 206	
117—118	3	L., M., at 10	B. Z. 110	Transeau
		Lab., W., 1 to 5	B. Z. 66	
119—120	3	S. and M. arranged	B. Z. 210	Griggs
121—	3	L., W., at 1	B. Z. 110	Schaffner
		Lab., W., 2 to 4	B. Z. 62	
123—124	4	L., M., W., at 10	B. Z. 209	Griggs
		Lab. to be arranged	B. Z.	
125—126	4	L., M., W., at 9	B. Z. 110	Transeau
		Lab., Tu., Th., 1 to 3	B. Z. 112	
		Tu., Th., 3 to 5	B. Z. 112	
127—128	4	L., Tu., Th., at 11	B. Z. 110	Stover
		Lab., M., F., 1 to 3	B. Z. 210	
129—130	3 to 5	M., 1 to 4; other hours arranged	B. Z. 60	Schaffner
133—134	3 to 5	To be arranged		All Instructors
139—140	3	To be arranged	B. Z. 210	Stover
—150	3	Tu., at 9; W., 9 to 11	B. Z. 112	Transeau
151—152	3	M., at 11; M., F., 1 to 3	B. Z. 110	Sampson
155—	3	To be arranged		Waller
201—202	3 to 10	To be arranged	B. Z. 104	Schaffner,
				Griggs
203—204	4 to 10	To be arranged	B. Z. 104	Schaffner,
				Griggs
205—206	4 to 10	To be arranged	B. Z. 112	Transeau
207—208	3 to 10	To be arranged	B. Z. 210	Griggs,
				Stover

For Short Courses Only

91—	4	To be arranged	B. Z.
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CHEMISTRY

105—106	4	L., M., at 8	Ch. 200	Evans and
		W., at 9	Ch. 200	department
		M., at 1	Ch. 200	assistants
		W., at 2	Ch. 200	
		Q. W., at 3	Ch. 302	
		F., at 8	Ch. 302	
		F., at 9	Ch. 101, 302	
		F., at 11	Ch. 302	
		W., at 1	Ch. 101, 302	
		F., at 1	Ch. 302	
		F., at 2	Ch. 101, 302	

CHEMISTRY—Continued

Course No.	Hours	Time	Room	Instructor
		S., at 9	Ch. 101	
		Lab., M., W., 8 to 11		
		Tu., Th., 8 to 11		
		F., S., 8 to 11		
		M., W., 1 to 4		
		Tu., Th., 1 to 4		
109—110	4	L., F., at 8	Ch. 200	Evans and department assistants
		F., at 10	Ch. 200	
		F., at 1	Ch. 200	
		F., at 3	Ch. 200	
		Q., M., at 10	Ch. 101	
		M., at 3	Ch. 101, 302	
		W., at 8	Ch. 207	
		W., at 10	Ch. 101, 207	
		W., at 8	Ch. 101, 302	
		S., at 8	Ch. 207	
		S., at 9	Ch. 207	
		S., at 10	Ch. 207	
		S., at 11	Ch. 207	
		Lab., M., W., 8 to 11		
		Tu., Th., 8 to 11		
		F., S., 8 to 11		
		M., W., 1 to 4		
		Tu., Th., 1 to 4		
113—114	2	Tu., Th., at 1	Ch. 200	Henderson
119—120	4	L., F., at 10	Ch. 207	Foulk
		M., at 3	Ch. 200	Foulk
		Lab. open mornings and afternoons		
121—	4	L., M., at 8	Ch. 200	Foulk
		Lab., Tu., W., 1 to 4		
—124	1	F., at 1	Ch. 207, 101	Foulk
127—	4	M., Tu., Th., F., at 11	Ch. 200	Boord
—132	2	Tu., at 11; F., at 4	Ch. 101	
—136	2	Tu., Th., at 11	Ch. 207	Foulk
—140	4	Thesis—To be arranged		
150—	3	Tu., Th., at 9; S., at 11	Ch. 200	Evans
	5	Tu., Th., at 9; S., at 11	Ch. 200	
		Lab., Tu., Th., 1 to 4		
		M., W., 1 to 4		
151—152	2	Tu., Th., at 8	Ch. 200	McPherson
153—154	2 or 3	Lect., Th. at 1	Ch. 207	McPherson,
		Lab. open afternoons		Boord
155—156	2	F., at 3	Ch. 207	Boord
157—158	3	M., W., F., at 11	Ch. 207	Mack
159—	3	M., W., F., at 9	Ch. 207	Henderson
161—161	2 or 3	Laboratory open daily 8 to 12 and 1 to 4		Mack

CHEMISTRY—Continued

Course No.	Hours	Time	Room	Instructor
—164	2	Tu., Th. at 9	Ch. 207	Mack
165—	2	M., W., at 10	Ch. 302	Foulk
167—	3 to 5	To be arranged		Hollingsworth
—168	3 to 5	L., Tu., at 9	Ch. 302	Hollingsworth
		Lab. to be arranged		
169—	3 to 5	To be arranged		Foulk
171—	1	S., at 11	Ch. 101	Boord
173—	2	W., F., at 8	Ch. 101	Henderson
—176	3	M., F., at 11	Ch. 101	Foulk
177—	2	Tu., Th., at 11	Ch. 302	Withrow
—178	1	Tu., at 11	Ch. 302	Withrow
—182		Inspection trip		
—184		Report		
185—	2	Tu., Th., 1 to 4		Withrow, Vilbrandt
—186	3	Tu., Th., S., 8 to 11		Withrow, Vilbrandt
187—187	3	Lab. open afternoons		Henderson
192—	2	Tu., Th., at 10	Ch. 207	Henderson
—194	2	To be arranged		Withrow
201—202	3	To be arranged		Henderson
205—	2 or 3	F., at 1		Boord
—206	2 or 3	Th., at 11		
209—210	3	To be arranged		Henderson
213—	2	To be arranged		
—216	2	To be arranged		Boord
217—	2	Tu., Th., at 4	Ch. 101	Boord
—221	2	M., W., at 11		Henderson
224—	2	Tu., Th., at 11	Ch. 101	
225—226	2	M., F., at 11		Withrow
227—	2	W., at 4	Ch. 101	
235—236	5 to 10	To be arranged		
241—242	3 to 5	To be arranged		Withrow

ECONOMICS AND SOCIOLOGY

ECONOMICS

Course No.	Hours	Time	Room	Instructor
101—102	3	M., W., F., at 8	P. 12	All Instrue-
		M., W., F., at 8	P. 206	tors
		Tu., Th., S., at 8	P. 7	
		Tu., Th., S., at 8	P. 206	
		M., W., F., at 9	P. 12	
		M., W., F., at 9	P. 13	
		Tu., Th., S., at 9	P. 12	
		Tu., Th., S., at 9	P. 206	
		M., W., F., at 10	P. 12	

ECONOMICS AND SOCIOLOGY—Continued

Course No.	Hours	Time	Room	Instructor
		M., W., F., at 10	P. 13	
		Tu., Th., S., at 10	P. 109	
		Tu., Th., S., at 10	P. 12	
		M., Th., F., at 11	P. 207	
		M., Th., F., at 11	P. 205	
		Tu., Th., S., at 11	P. 12	
		M., W., F., at 1	P. 12	
		M., W., F., at 1	P. 13	
		M., W., F., at 2	P. 207	
		M., W., F., at 2	P. 109	
		M., W., F., at 3	P. 12	
		M., W., F., at 3	P. 13	
102—101	3	M., W., F., at 3	P. 109	
		Tu., Th., S., at 3	P. 109	
		M., W., F., at 9	P. 109	
		Tu., Th., S., at 9	P. 109	
		Tu., Th., S., at 10	P. 206	
		M., W., F., at 2	P. 6	
		M., W., F., at 3	P. 109	
103—	2	Tu., Th., at 10	P. 6	
—104	2	Tu., Th., at 9	P. 6	Huntington
105—	2	Tu., Th., at 3	P. 13	Ruggles
—106	2	Tu., Th., at 3	P. 12	Walradt
107—108	3	M., W., F., at 9	P. 205	
109—	3	M., W., F., at 3	P. 203	
—112	2	Tu., Th., at 3	P. 6	
119—120	3	M., W., F., at 2	P. 9	Mark
121—	2	Tu., Th., at 9	P. 6	Huntington
122—	3	M., W., F., at 9	P. 6	Huntington
127—128	2	Tu., Th., at 1	P. 12	Dice
129—	2	Tu., Th., at 9	P. 207	Wall
132—133	3	M., W., F., at 3	P. 6	
		Tu., Th., S., at 3	P. 207	
		M., W., F., at 9	P. 7	
		Tu., Th., S., at 9	P. 7	
		M., W., F., at 10	P. 206	
		Tu., Th., S., at 10	P. 7	
		M., Th., F., at 11	P. 7	
		M., W., F., at 1	P. 6	
		M., W., F., at 1	P. 207	
		M., W., F., at 2	P. 206	
—132	3	M., W., F., at 9	Ph. 303	
		M., W., F., at 2	P. 13	
139—140	3	L., Tu., Th., at 3	P. 9	Eckelberry
		Tu., Th., at 9	P. 9	
		Tu., Th., at 9	P. 13	
		Tu., Th., at 10	P. 13	
		Tu., Th., at 10	P. 9	

ECONOMICS AND SOCIOLOGY—Continued

Course No.	Hours	Time	Room	Instructor
		Tu., Th., at 11	P. 6	
		Tu., Th., at 1	P. 6	
		Tu., Th., at 1	P. 9	
		Tu., Th., at 2	P. 6	
		Tu., Th., at 3	P. 6	
		Lab., M., 8 to 10	P. 11	
		M., 1 to 3	P. 11	
		M., 3 to 5	P. 11	
		Tu., 10 to 12	P. 11	
		Tu., 1 to 3	P. 11	
		W., 8 to 10	P. 11	
		Th., 10 to 12	P. 11	
		F., 8 to 10	P. 11	
		S., 8 to 10	P. 11	
		S., 10 to 12	P. 11	
140—139	3	L., Tu., Th., at 8	P. 205	
		Tu., Th., at 9	P. 205	
		Tu., Th., at 10	P. 207	
		Tu., Th., at 11	P. 109	
		Tu., Th., at 3	P. 109	
		Lab., Tu., 8 to 10	P. 11	
		Tu., 8 to 5	P. 11	
		W., 1 to 3	P. 11	
		W., 8 to 6	P. 11	
		Th., 8 to 10	P. 11	
141—144	2	Tu., Th., at 10	P. 205	
145—146	2	Tu., 8 to 5	P. 208	Ruggles
147—148	2	Tu., Th., at 1	P. 13	Walradt
149—150	3	M., W., F., at 8	P. 207	Pike
		M., W., F., at 9	P. 207	
		M., W., F., at 10	P. 207	
		M., W., F., at 1	P. 9	
—149	3	M., Th., F., at 11	P. 206	
		M., W., F., at 2	P. 106	
150—	3	M., W., F., at 2	P. 106	
153—154	3	M., Th., F., at 11	P. 9	Dice
157—158	2	Tu., Th., at 9	P. 209	
159—	3	M., W., F., at 1	P. 7	Huntington
160—162	3	M., W., F., at 1	P. 109	
163—	3	M., W., F., at 9	P. 9	
163—163	3	M., W., F., at 10	P. 109	
165—166	3	M., W., F., at 3	P. 7	Hammond
167—168	3	M., W., F., at 3	P. 13	Ruggles
—167	3	M., W., F., at 9	P. 13	
169—	2	Tu., Th., at 1	P. 7	
171—	3	M., W., F., at 8	P. 205	
—172	3	M., W., F., at 2	P. 7	Ekelberry

ECONOMICS AND SOCIOLOGY—Continued

Course No.	Hours	Time	Room	Instructor
173—	3	M., W., F., at 8	P. 209	Eckelberry
—174	3	M., W., F., at 8	P. 208	Eckelberry
—175	3	M., W., F., at 3	P. 206	
177—178	3	L., Tu., Th., at 1	P. 109	Mark
		Lab., Th., 2 to 4	P. 11	
181—182	3	M., W., F., at 10	P. 9	Walradt
—183	3	M., W., F., at 9	P. 9	Hammond
—184	3	M., W., F., at 9	P. 206	Huntington
185—186	3	M., W., F., at 10	P. 7	Hagerty
—188	2	Tu., Th., at 8	P. 13	Ruggles
189—	2	Tu., Th., at 8	P. 6	Huntington
—190	2	Tu., Th., at 8	P. 209	
201—202	2	To be arranged		Hammond
207—208	2	Th., 4 to 6	L. 305	
209—210	1 to 3	To be arranged		Hammond
211—212	1 to 3	To be arranged		Ruggles
213—214	1 to 3	To be arranged		Lockhart

SOCIOLOGY

101—102	3	M., W., F., at 8	P. 9	All Instruc-
		M., W., F., at 8	Ph. 304	tors
		Tu., Th., S., at 8	P. 208	
		M., W., F., at 9	B. Z. 109	
		M., W., F., at 9	Ph. 302	
		Tu., Th., S., at 9	P. 208	
		M., W., F., at 10	B. Z. 109	
		Tu., Th., S., at 10	P. 208	
		M., Th., F., at 11	P. 13	
		M., W., F., at 1	P. 206	
		M., W., F., at 2	P. 208	
		M., W., F., at 3	P. 208	
102—101	3	M., W., F., at 10	P. 6	
		M., W., F., at 2	P. 101	
104—	3	M., W., F., at 3	P. 205	Clarke
107—	3	M., W., F., at 2	P. 12	
—108	1	Tu., at 8	Arch. M.	Mills
109—	4	M., W., F., at 8	P. 7	Hagerty
		Lab., S., 9 to 12		
111—	3	M., W., F., at 9	P. 206	Gettys
—112	4	M., W., F., at 8	P. 7	Hagerty
		Lab., S., 9 to 12		
—114	3	M., W., F., at 9	Ph. 304	
115—116	3	To be arranged		Mark
117—118	2	Tu., 4 to 6	P. 209	Hagerty
123—124	3	M., W., F., at 3	P. 6	
125—126	3	M., W., F., at 1	P. 208	Hagerty
127—128	3	M., W., F., at 10	P. 208	Gettys
129—130	2	M., W., at 2	P. 209	North

ECONOMICS AND SOCIOLOGY—Continued

Course No.	Hours	Time	Room	Instructor
131—132	3	M., W., F., at 9	P. 208	Hagerty
133—	3	M., W., F., at 10	P. 205	
—134	3	M., W., F., at 3	P. 9	
—136	3	M., W., at 2	P. 12	
		Lab., Tu., 2 to 4		
137—	3	M., W., F., at 3	P. 9	
139—140	1	To be arranged		
201—202	2	To be arranged		
207—208	2	Th., 4 to 6	P. 7	

ENGINEERING DRAWING

101—	2	M., W., 8 to 10	Br.	All Instruc- tors
		M., Tu., 10 to 12	Br.	
		M., W., 1 to 3	Br.	
		M., W., 3 to 5	Br.	
		Tu., Th., 8 to 10	Br.	
		Tu., Th., 1 to 3	Br.	
		Tu., Th., 3 to 5	Br.	
		F., S., 8 to 10	Br.	
		F., S., 10 to 12	Br.	
—101	2	F., S., 8 to 10	Br.	
102—	3	L., M., at 8	Br. 200	
		M., 9 to 11; Tu., 8 to 10	Br.	
—102	3	L., Tu., at 10	Br. 200	All Instruc- tors
		W., at 8	Br. 200	
		W., at 9	Br. 200	
		W., at 10	Br. 203, 200	
		F., at 1	Br. 203, 200	
		F., at 2	Br. 200, 1	
		F., at 3	Br. 203	
		Lab., M., W., 8 to 10	Br.	
		M., Tu., 10 to 12	Br.	
		M., W., 1 to 3	Br.	
		M., W., 3 to 5	Br.	
		Tu., Th., 8 to 10	Br.	
		Tu., Th., 1 to 3	Br.	
		Tu., Th., 3 to 5	Br.	
		F., S., 8 to 10	Br.	
		F., S., 10 to 12	Br.	
103—	3	L., M., W., F., at 8	Br. 203	All Instruc- tors
		Tu., Th., S., at 8	Br. 109	
		Tu., Th., S., at 8	Br. 200	
		M., W., F., at 9	Br. 200	
		M., W., F., at 10	Br. 203	
		M., W., F., at 1	Br. 200	
		M., W., F., at 2	Br. 200	

ENGINEERING DRAWING—Continued

Course No.	Hours	Time	Room	Instructor
		M., W., F., at 3	Br. 200	
		M., W., F., at 3	Br. 104	
		Tu., Th., F., at 3	Br. 203	
—104	3	L., M., at 10	Br. 203	Williams
		M., at 1	Br. 200	
		M., at 3	Br. 200	Williams
		Tu., at 8	Br. 203	Svensen
		Tu., at 2	Br. 203	
		Tu., at 3	Br. 203	Withrow
		Th., at 9	Br. 203	
		Lab., M., Tu., 8 to 10	Br.	
		Tu., W., 1 to 3	Br.	
		Th., F., 10 to 12	Br.	
		F., S., 8 to 10	Br.	
		F., 1 to 3; S., 10 to 12	Br.	
105—	3	M., W., F., at 9	Br. 203	Turnbull
		M., W., F., at 2	Br. 203	
		M., W., F., at 2	Br. 109	
—106	3	L., Tu., Th., at 8	Br. 200	Turnbull
		M., W., at 1	Br. 203	Turnbull
		Lab., Th., 9 to 11	Br.	
		M., 2 to 4	Br.	
107—	3	M., W., F., at 1	Br. 203	Meiklejohn
108—	3	Tu., Th., S., at 8	Br. 203	French
—110	2	M., Tu., 8 to 10	Br.	Williams
		W., Th., 10 to 12	Br.	
		F., S., 8 to 10	Br.	
		F., S., 10 to 12	Br.	
111—	2	M., Tu., 8 to 10	Br.	Williams, Svensen
		M., Tu., 1 to 3	Br.	
		Th., F., 1 to 3	Br.	
121—122	2	M., W., 1 to 3	Br.	Withrow, Svensen
125—125	2	L., Tu., at 1	Br. 200	French
		Tu., at 2	Br. 200	
		Th., at 9	Br. 200	Meiklejohn
		Th., at 3	Br. 200	
		F., at 10	Br. 200	
		F., at 1	Br. 104	
		Lab., M., 8 to 11	Br.	
		W., 1 to 4	Br.	
		F., 8 to 11	Br.	
		F., 1 to 4	Br.	
127—	1½	S., 8 to 11	Br. 203	French, Turnbull
—123	1½	S., 8 to 11	Br. 203	French

ENGINEERING DRAWING—Continued

Course No.	Hours	Time	Room	Instructor
129—	1	S., 8 to 10	Br.	
—130	2	S., 8 to 12	Br.	
131—132	3	M., W., 1 to 4	Br.	French
139—	4	Th., F., 1 to 4	Br.	Svensen
—140	3	Th., F., 1 to 4	Br.	Svensen

ENGLISH

101—104	2	M., W., at 8	Ph. 102, 104, 302	All Instru- tors
		M., W., at 9	Ph. 304, Ha. 106	
		M., W., at 10	Ph. 202, 303	
		M., F., at 11	Ph. 204, 104	
		M., W., at 1	Ph. 302, 303	
		M., W., at 2	Ph. 304, 303	
		M., W., at 3	Ph. 104, 204	
		Tu., Th., at 8	Ph. 104, 102, Ha. 211	
		Tu., Th., at 9	Ph. 104, 204, Ha. 106	
		Tu., Th., at 10	U. 202, Ha. 200, 210	
		Tu., Th., at 1	Ph. 104, 204, U. 202	
		Tu., Th., at 2	Ph. 104, 204, 102	
		Tu., Th., at 3	Ph. 104, 204, 102	
		Tu., Th., at 4	Ph. 104	
104—101	2	Tu., Th., at 8	Ph. 303	
		Tu., Th., at 1	Ph. 102	
		Tu., Th., at 4	Ph. 102	
105—106	2	Tu., Th., at 10	Ph. 104	Beck
		M., W., at 2	Ph. 104	
107—108	2	Tu., Th., at 10	Ph. 204	Graves
127—128	2	Tu. Th., at 10	Ph. 303	McKnight
		M., W., at 2	Ph. 303	McKnight
133—133	3	M., W., F., at 10	Ph. 104	Taylor
		Tu., Th., S., at 10	Ph. 302	
		M., W., F., at 3	Ph. 302	
		M., W., F., at 1	Ph. 104	
136—	3	M., W., F., at 1	Ph. 104	Percival
—137	3	M., W., F., at 1	Ph. 104	Percival
141—142	3	M., W., F., at 9	Ph. 102	Taylor
		Tu., Th., S., at 9	Ph. 102	
		M., W., F., at 10	Ph. 304	
		M., W., F., at 1	Ph. 102	
		M., W., F., at 3	Ph. 102	
		M., W., F., at 2	Ph. 102	
		M., W., F., at 8	Ph. 102	
143—144	3	M., W., F., at 2	Ph. 102	Percival
145—146	3	M., W., F., at 8	Ph. 204	Andrews Percival
		Tu., Th., S., at 8	Ph. 204	
		M., W., F., at 10	Ph. 204	
		M., W., F., at 1	Ph. 204	
		M., W., F., at 2	Ph. 302	
		M., W., F., at 3	Ph. 302	
154—153	3	M., W., F., at 3	L. 104	McKnight

ENGLISH—Continued

Course No.	Hours	Time	Room	Instructor
155—156	3	M., W., F., at 2	Ph. 204	Taylor
157—158	3	M., W., F., at 9	Ph. 204	Graves
159—160	2	Tu., Th., at 2	Ph. 303	Andrews
165—166	3	M., Tu., F., at 11	Ph. 102	Denney
167—168	3	M., W., F., at 10	Ph. 102	Denney
169—170	3	M., W., F., at 9	Ph. 104	
181—	2	Tu., Th., at 10	Ph. 102	Denney
201—202	2	W., 4 to 6	L. 105	Graves
205—206	2	M., 4 to 6	L. 104	Denney
207—208	2	Tu., 4 to 6	L. 104	Taylor
209—	2	Tu., 4 to 6	L. 105	McKnight
—212	2	Tu., 4 to 6	L. 105	McKnight
213—214	2	Th., 4 to 6	L. 104	
215—216	2	Th., 4 to 6	Ph. 204	Andrews
217—218	2	Th., 4 to 6	L. 105	Percival
219—220	2	W., 4 to 6	L. 104	Denney

For Short Courses Only

91— 92	2	Tu., Th., at 8
		Tu., Th., at 10
		Tu., Th., at 2
		Tu., Th., at 3

PUBLIC SPEAKING (See Public Speaking)

EUROPEAN HISTORY

101—102	3	M., W., F., at 8	U. 301	All Instruc- tors
		M., W., F., at 8	U. 302	
		M., W., F., at 9	U. 301	
		Tu., Th., S., at 9	U. 302	
		M., W., F., at 10	U. 301	
		Tu., Th., S., at 10	U. 302	
		Tu., Th., S., at 11	U. 302	
		M., W., F., at 1	U. 301	
		M., W., F., at 1	U. 302	
		M., W., F., at 2	U. 301	
		M., W., F., at 3	U. 301	
102—101	3	M., W., F., at 9	U. 302	
		M., W., F., at 1	U. 302	
103—104	3	M., W., F., at 8	U. 303	Perkins
105—106	3	M., W., F., at 9	U. 303	Knipping
109—110	2	Tu., Th., at 11	U. 301	Siebert
113—114	3	M., W., F., at 10	U. 302	Siebert
121—122	2	Tu., Th., at 9	U. 301	McNeal
123—124	3	M., W., F., at 2	U. 302	Perkins
125—126	2	W., 4 to 6	U. 303	Knipping
129—130	2	Th., 4 to 6	U. 302	All Instruc- tors

EUROPEAN HISTORY—Continued

Course No.	Hours	Time	Room	Instructor
131—132	3	M., W., F., at 8	U. 202	Washburne
		M., W., F., at 2	U. 303	McNeal
135—136	3	M., W., F., at 1	U. 306	All Instruc- tors
141—142	2	Tu., Th., at 10	U. 301	Washburne
143—144	2	Tu., Th., at 10	U. 303	Siebert
—152	2	Tu., Th., at 9	U. 303	Siebert, Perkins
203—204	2 to 5	To be arranged	Li.	Siebert

GEOLOGY

101—102	3	M., W., F., at 8	O. 1	
		M., W., F., at 1	O. 1	
102—101	3	M., W., F., at 9	O. 1	
		M., W., F., at 2	O. 1	
103—	3	M., W., F., at 10	O. 105	Bownocker
—104	3	M., W., F., at 10	O. 105	Carman
105—	3 to 5	To be arranged; fields trips Saturday		Carman
—106	3	To be arranged; field trips Saturday		
107—108	2 to 5	To be arranged		Carman
113—114	2 to 5	To be arranged		Carman
116—	3	To be arranged		
121—	3	M., W., F., at 10	O. 1	Tucker
—124	3	M., W., F., at 10	O. 1	Tucker
—128	3	M., W., F., at 4	O. 105	
141—142	2 to 5	To be arranged		Bownocker, Carman
151—151	Agr. 3	L., Tu., Th., at 8	O. 105	Lamborn
			O. 1 (2nd Sem.)	
		Tu., Th., at 9	O. 105	
		Tu., Th., at 10	O. 1	
			O. 105 (2nd Sem.)	
		Tu., Th., at 1	O. 105	
			O. 1 (2nd Sem.)	
		Tu., Th., at 2	O. 105	
		Tu., Th., at 3	O. 105	
		Lab., M., 8 to 10		
		M., 1 to 3		
		W., 8 to 10		
		W., 1 to 3		
		F., 8 to 10		
		F., 1 to 3		
—162	4	M., W., F., at 9	O. 105	
165—	3	Tu., Th., at 10	O. 105	Lamborn

GEOLOGY—Continued

Course No.	Hours	Time	Room	Instructor
—165	3	Lab., F., 10 to 12 W., F., at 10 Lab., M., 2 to 4	O. 11	Bownocker
—166	2	Tu., at 9; W., 2 to 4	O. 11	Bownocker
167—	3	M., W., F., at 8	O. 105	Bownocker
168—	3	L., M., Th., at 11 Lab., Tu., 2 to 4 L., Tu., Th., at 9 Lab., Th., 2 to 4	O. 105 O. 1	Lamborn
—168	3	L., Tu., Th., at 9 Lab., Th., 2 to 4	O. 1	Carman Carman
—170	3	M., W., F., at 8	O. 105	Bownocker
201—202	3 to 5	To be arranged		Bownocker, Carman
203—204	3 to 5	To be arranged		Carman

GERMAN

101—102	4	M., W., F., S., at 8 M., W., F., S., at 9 M., Tu., W., Th., at 2 M., Tu., W., Th., at 8	U. 320 U. 320 U. 320 U. 320	Barrows Evans Eisenlohr Thomas
—101	4	M., Tu., W., Th., at 1	U. 319	Thomas
102—103	4	M., W., F., S., at 9	U. 202	Eisenlohr
103—104	4	M., Tu., Th., F. at 11	U. 319	Barrows
103—106	4	M., W., F., S., at 10 M., Tu., W., Th., at 2	U. 320 U. 319	Evans Thomas
104—	4	M., Tu., W., Th., at 1	U. 319	Thomas
—106	4	M., Tu., W., Th., at 3	U. 319	Barrows
107—108	4	M., W., F., S., at 10	U. 319	Eisenlohr
117—118	2	Tu., Th., at 10	U. 319	Thomas
131—132	2	Tu., Th., at 2	U. 308	Barrows
175—	2	Tu., Th., at 3	U. 319	Barrows
179—180	2 or 4	M., F., at 11 Tu., Th., at 11	L. 308 L. 308	Eisenlohr, Evans
181—182	2	To be arranged		Evans
197—	2	To be arranged		Barrows
215—216	2	Tu., 4 to 6	L. 308	Evans

GREEK LANGUAGE AND LITERATURE

101—102	4	M., Tu., Th., F., at 11	U. 306	Bolling
115—116	2	Tu., Th., at 10	U. 306	Bolling
121—122	2 to 4	To be arranged		
125—126	4	M., Tu., W., Th., at 2	U. 306	Bolling
129—130	3	To be arranged		Bolling
131—132	1	To be arranged		Bolling
133—134	2	M., F., at 10	U. 306	Bolling
141—	2	To be arranged		Bolling
151—152	2 to 4	To be arranged		Bolling

HISTORY AND PHILOSOPHY OF EDUCATION

Course No.	Hours	Time	Room	Instructor
101—102	3	M., W., F., at 10	Ha. 101	Anderson
		M., W., F., at 4	Ha. 101	Anderson
103—104	2	Tu., Th., at 10	Ha. 101	Anderson
105—106	2	Tu., Th., at 9	Ha. 101	Anderson
107—108	2	M., W., at 8	Ha.	Anderson
109—110	2	Tu., Th., at 8	Ha. 101	Anderson
—112	2	Tu., Th., at 2	Ha. 101	Anderson
201—202	2	Tu., 4 to 5	Ha. 101	Anderson
203—204	2	To be arranged		Anderson
—206	1	M., at 9	Ha.	Anderson

HOME ECONOMICS

101—102	5	L., M., W., at 9	H. E. 208	
		M., W., at 2	H. E. 102	
		Q., F., at 9	H. E. 102	
		F., at 1	H. E. 102	
		F., at 2	H. E. 102	
		S., at 9	H. E. 102	
		Lab., 1st sem. (101)		
		M., W., 1 to 3	H. E.	
		2nd sem. (102)		
		Tu., Th., 1 to 3	H. E.	
		1st sem. (101)		
		Tu., Th., 8 to 10	H. E.	
		2nd sem. (102)		
		Tu., Th., 10 to 12	H. E.	
		1st sem. (101)		
		M., W., 9 to 11	H. E.	
		2nd sem. (102)		
		Tu., Th., 8 to 10	H. E.	
		1st sem. (101)		
		Tu., Th., 1 to 3	H. E.	
		2nd sem. (102)		
		Tu., Th., 8 to 5	H. E.	
104—	3	M., W., F., at 4	H. E. 208	Linder
—104	3	M., W., F., at 4	H. E. 208	Linder
105—105	2	W., at 10	H. E. 218	Van Meter
		Lab. to be arranged		
—106	2 to 5	To be arranged	H. E.	
—110	4	Tu., Th., 9 to 12	H. E. 208	
		M., W., 9 to 12	H. E. 102	
111—112	2	L., Tu., at 8	H. E. 218	Walker
		Th., at 11	H. E. 218	
		Lab., Tu., 8 to 11	H. E.	
		W., 1 to 4 (1st sem. only)	H. E.	
		Th., 8 to 11	H. E.	

HOME ECONOMICS—Continued

Course No.	Hours	Time	Room	Instructor
		F., 9 to 12	H. E.	
		F., 1 to 4	H. E.	
118—	3	L., Th., at 10	H. E. 203	
		Lab., Tu., F., 10 to 12	H. E. 113, 114	
		Tu., Th., 1 to 3	H. E.	
		M., W., 1 to 3	H. E.	
—113	3	L., Tu., at 10	H. E. 203	
		Tu., Th., 1 to 3	H. E. 113, 114	
—116	3	L., Th., at 10	H. E. 203	
		Lab., M., W., 1 to 3	H. E. 113	
		M., W., 3 to 10	H. E. 113	
118—118	3	F., at 11; Tu., Th., 10 to 12	H. E. 218	
		F., at 3; Tu., Th., 2 to 4	H. E. 218	
119—	4	M., W., at 3; F., 2 to 4	H. E. 218	Walker
—119	4	M., W., at 9; F., 9 to 11	H. E. 218	Walker
		M., W., at 3; F., 2 to 4	H. E. 218	Walker
121—	3	W., at 10	H. E. 203	
		Lab., Tu., Th., 3 to 10	H. E. 302	
		M., F., 10 to 12	H. E. 302	
125—126	3	To be arranged		
127—128	3	L., Tu., Th., at 11	H. E. 102	
		Observation and practice hours to be arranged		
138—	4	M., W., F., at 9	H. E.	
		Lab. to be arranged		
201—202	2 to 5	To be arranged	H. E.	

INDUSTRIAL EDUCATION

111—112	3	M., Tu., at 11	S.	Uary
		1 hour to be arranged		
117—118	2	Lab., Tu., 1 to 4	S.	Uary
123—123	2	M., W., at 10	S.	Uary
125—125	2	M., W., 1 to 4	S.	
127—128	3	M., W., 1 to 4	S.	Smith
129—129	3	Th., 1 to 4; S., 8 to 11	S.	Smith
131—131	3	Th., 1 to 4; S., 8 to 11	S.	
—132	3	Tu., 1 to 4	S.	Smith
133—134	2	Tu., 8 to 11	S.	Uary
135—135	2	M., 1 to 4 or F., 1 to 4	S.	
136—136	2	M., 1 to 4 or F., 1 to 4	S.	
—137	2	M., Tu., at 11	S.	Smith
138—138	2	M., Tu., at 11	S.	

JOURNALISM

Course No.	Hours	Time	Room	Instructor
101—102	3	M., W., at 9	S. 208	Myers
		M., W., at 1	S. 208	Myers
		Agr. Tu., at 11	S. 201	Baker
		Lab. to be arranged		
102—101	3	Tu., Th., at 9	S. 201	Myers
103—104	3	M., W., F., at 8	S. 208	Hooper
105—106	3	Tu., Th., at 11	S. 208	Myers
		Lab., to be arranged		
107—108	3	M., W., F., at 10	S. 208	Hooper
109—110	2	Tu., at 10; Lab to be arranged	S. 208	Myers
113—	2	Tu., Th., at 8	S. 208	Myers
115—116	2	Tu., Th., at 9	S. 208	Hooper
—119	2	Tu., Th., at 8	S. 208	Myers

LATIN

101—102	4	M., W., F., S., at 9	U. 306	Hodgman
		M., W., F., S., at 10	U. 303	Elden
103—104	3	M., W., F., at 10	U. 316	Hodgman
105—106	2	Tu., Th., at 9	L. 311	Elden
107—	2	M., W., at 4	U. 316	Smith
—109	2	M., W., at 4	U. 316	Derby
111—112	1	M., at 3	U. 316	Elden
113—114	3	M., W., F., at 9	U. 316	Elden
115—116	3	M., Th., F., at 11	U. 316	Hodgman
119—120	1 or 2	Tu., at 4	U. 306	Hodgman
121—122	2 to 5	Tu., F., at 4	U. 316	Derby
123—124	1	Tu., at 8	U. 306	Hodgman
125—126	1	W., at 3	U. 306	Elden
129—130	2	Tu., Th., at 10	U. 316	Hodgman
147—148	4	M., Tu., W., Th., at 1	U. 316	Smith
149—150	4	M., Tu., W., Th., at 2	U. 316	Smith
201—202	1	F., at 9	L. 311	Hodgman
203—204	1	F., at 3	U. 316	Elden
213—214	2 or 3	Tu., Th., at 11	L. 311	Derby

MATHEMATICS

107—107	3	M., W., F., at 8	U. 310	Rickard
		Tu., Th., S., at 8	U. 310	
		M., W., F., at 9	U. 310	Rasor
		M., W., F., at 1	U. 310	Bareis
		M., W., F., at 2	U. 310	
		M., W., F., at 2	U. 312	Rasor
		M., W., F., at 3	U. 310	Arnold
		M., W., F., at 3	U. 312	

MATHEMATICS—Continued

Course No.	Hours	Time	Room	Instructor
121—122	3	M., W., F., at 8	U. 312	Swartzel
		Tu., Th., S., at 8	U. 312	
		M., W., F., at 9	U. 308	
		Tu., Th., S., at 9	U. 310	
		M., Tu., F., at 11	U. 310	
		M., W., F., at 1	U. 312	
		M., W., F., at 2	U. 308	
125—126	2	Tu., Th., at 3	L. 306	Arnold
127—128	3	M., W., F., at 8	U. 311	Weaver
129—130	3	M., W., F., at 8	U. 313	Kuhn
		M., W., F., at 1	U. 313	
131—132	5	M., Tu., Th., F., S., at 8	U. 309	All Instruc- tors
		M., Tu., Th., F., S., at 8	U. 311	
		M., Tu., Th., F., S., at 9	U. 309	
		M., Tu., Th., F., S., at 9	U. 311	
		M., Tu., Th., F., S., at 10	U. 310	
		M., Tu., Th., F., S., at 10	U. 311	
		M., Tu., Th., F., S., at 10	U. 309	
		M., Tu., W., F., S., at 11	U. 309, U. 320	
		M., Tu., W., Th., F., at 12	U. 309	
		M., Tu., W., Th., F., at 1	U. 309	
		M., Tu., W., Th., F., at 1	H. F. 205	
		M., Tu., W., Th., F., at 1	U. 311	
		M., Tu., W., Th., F., at 2	H. F. 205	
		M., Tu., W., Th., F., at 2	U. 311, Lo. 208	
		M., Tu., W., Th., F., at 3	U. 309	
		M., Tu., W., Th., F., at 3	U. 308	
		M., Tu., Th., F., S., at 10	H. F. 106	
		M., Tu., W., Th., F., at 2	Lo. 125	
		M., Tu., W., Th., F., at 3	H. F. 205	
132—131	5			
135—	3	M., W., F., at 2		
141—142	5	M., Tu., Th., F., S., at 8	U. 308	All Instruc- tors
		M., Tu., Th., F., S., at 8	H. F. 106	
		M., Tu., Th., F., S., at 8	U. 319	
		M., Tu., Th., F., S., at 9	U. 312	
		M., Tu., Th., F., S., at 9	U. 313	
		M., Tu., Th., F., S., at 10	U. 308	
		M., Tu., Th., F., S., at 10	U. 313	
		M., Tu., Th., F., S., at 10	U. 312	
		M., Tu., Th., F., S., at 11	U. 313	
		M., Tu., Th., F., S., at 11	U. 312	
		M., Tu., W., Th., F., at 1	U. 308	
		M., Tu., W., Th., F., at 1	H. F. 106	
		M., Tu., W., Th., F., at 2	U. 309	
		M., Tu., W., Th., F., at 2	H. F. 106	
		M., Tu., W., Th., F., at 3	U. 313	
		M., Tu., W., Th., F., at 3	H. F. 106	

MATHEMATICS—Continued

Course No.	Hours	Time	Room	Instructor
142—141	5	M., Tu., Th., F., S., at 10	H. F. 205	Bareis
		M., Tu., W., Th., F., at 3	Lo. 125	Rickard
149—150	3	To be arranged		Weaver
165—166	3	M., W., F., at 12	U. 313	Morris
167—168	3	M., Th., F., at 11	U. 311	Bohannan
171—172	3	M., W., F., at 2	U. 313	Bareis
173—174	3	M., W., F., at 10	L. 306	Kuhn
—181	3	M., W., F., at 3		
183—184	2	M., F., at 11	U. 308	
185—186	2	Tu., Th., at 2	U. 312	Arnold
187—	3	M., W., F., at 3		
—190	2	M., W., at 2		
201—202	3	M., W., F., at 1	L. 306	Rasor
203—204	3	M., Th., F., at 11		Swartzel
205—206	3	To be arranged		Bohannan
207—	3	To be arranged		Arnold
209—210		To be arranged		
211—212		To be arranged		Kuhn
213—214		To be arranged		Rasor
215—216		To be arranged		
217—218		To be arranged		Swartzel
219—220		To be arranged		
221—222		To be arranged		Kuhn

MECHANICS

101—102	5	Daily at 8	Lo. 232	Boyd
		Daily at 9	Lo. 232	Draffin
		Daily at 10	Lo. 232	Boyd
		Daily at 1	L. 232	Coddington
		Daily at 3	Lo. 232	
101—	5	M., Tu., Th., F., S., at 11	Br. 203	
—102	5	Daily at 2	Lo. 232	
103—	5	Daily at 11	Lo. 232	Boyd
—104	2	Tu., Th., at 11	Lo. 107	Draffin
201—202	3	To be arranged		Boyd, Coddington

MILITARY SCIENCE AND TACTICS

101—102 (Infantry)	1	M., W., F., at 8; Th., at 11 Tu., Th., S., at 8; Th., at 11 M., W., F., at 9; Th., at 11 Tu., Th., S., at 9; Th., at 11 M., W., F., at 10; Th., at 11 Tu., Th., S., at 10; Th., at 11 M., Tu., F. at 11; Th., at 11 M., W., F., at 1; Th., at 11
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MILITARY SCIENCE AND TACTICS—Continued

Course No.	Hours	Time	Room	Instructor
		M., W., F., at 2; Th., at 11		
		M., W., F., at 3; Th., at 11		
		M., W., F., at 4; Th., at 11		
103—104	1	M., W., F., at 8		
(Infantry)		Tu., Th., S., at 8		
		M., W., F., at 9		
		Tu., Th., S., at 9		
		M., W., F., at 10		
		Tu., Th., S., at 10		
		M., Tu., F., at 11		
		M., W., F., at 1		
		M., W., F., at 2		
		M., W., F., at 3		
		M., W., F., at 4		
105—106	1	M., W., F., at 8; Th., at 11		
(Artillery)		Tu., Th., S., at 8; Th., at 11		
		M., W., F., at 9; Th., at 11		
		Tu., Th., S., at 9; Th., at 11		
		M., W., F., at 10; Th., at 11		
		Tu., Th., S., at 10; Th., at 11		
		M., Tu., F., at 11; Th., at 11		
		M., W., F., at 1; Th., at 11		
		M., W., F., at 2; Th., at 11		
		M., W., F., at 3; Th., at 11		
		M., W., F., at 4; Th., at 11		
107—108	1	M., W., F., at 8		
(Artillery)		Tu., Th., S., at 8		
		M., W., F., at 9		
		Tu., Th., S., at 9		
		M., W., F., at 10		
		Tu., Th., S., at 10		
		M., Tu., F., at 11		
		M., W., F., at 1		
		M., W., F., at 2		
		M., W., F., at 3		
		M., W., F., at 4		
125—126	2	To be arranged		
127—128	2	To be arranged		
135—136	2	To be arranged		
137—138	2	To be arranged		

MINERALOGY

102—	3	M., W., F., at 8	Lo. 107	McCaughy
—102	3	M., W., F., at 8	Lo. 107	McCaughy
		M., W., F., at 9	Lo. 107	McCaughy
104—	3	M., Tu., 1 to 4	Lo. 107	McCaughy

MINERALOGY—Continued

Course No.	Hours	Time	Room	Instructor
105—	2	Tu., Th., at 8	Lo. 107	McCaughey
111—	2	To be arranged		
113—	3	Th., at 9	Lo. 109	McCaughey
		F., 1 to 4		McCaughey
—113	3	Th., at 9	Lo. 107	McCaughey
		Th., 1 to 4		McCaughey
121—	3 to 5	To be arranged	Lo.	McCaughey
123—124	5	To be arranged	Lo.	McCaughey
131—131	3 to 5	To be arranged		

PHILOSOPHY

101—104	3	L., M., F., at 9	H. F. 206	Leighton
		Q., W., at 9	L. 307	
		W., at 9	U. 321	
		Th., at 9	L. 307	
		Th., at 9	U. 202	
		S., at 9	U. 321	
101—102	3	L., Tu., Th., at 10	H. F. 206	Williams
		Q., F., at 10	U. 321	
		F., at 10	L. 307	
		S., at 10	U. 321	
		L., Tu., Th., at 2	H. F. 206	Chandler
		Q., W., at 2	L. 307	
		F., at 2	U. 319	
		F., at 2	U. 306	
102—101	3	L., M., F., at 8	H. F. 206	Avey
		Q., W., at 8	L. 307	
		W., at 8	U. 209	
		Th., at 8	U. 321	
105—106	3	M., W., F., at 8	U. 321	Williams
		M., W., F., at 1	U. 321	Leighton
107—108	3	M., W., F., at 2	U. 321	Avey
111—112	2	M., W., at 10	U. 321	Williams
113—114	2	Tu., Th., at 11	U. 321	Avey
115—116	2	Tu., Th., at 11	L. 307	Chandler
117—118	2	M., W., at 11	U. 321	Avey
121—122	3	M., W., F., at 10	L. 309	Leighton
125—126	3	To be arranged		Chandler
134—	2	M., W., at 1	L. 307	Leighton
138—139	3	M., W., F., at 3	U. 321	Williams
141—142	2	Tu., Th., at 9	U. 321	Chandler
—150	2	Tu., Th., at 8	U. 321	Williams
201—202	3 to 6	To be arranged		
207—208	3 to 6	To be arranged		
209—210	2	To be arranged		

PHYSICAL EDUCATION

FOR MEN

Hygiene

Course No.	Hours	Time	Room	Instructor
100—100	1	Monday at 11		Nichols
	1	Monday at 2		Nichols
	1	Tuesday at 8		Nichols
	1	Wednesday at 10		Nichols
	1	Wednesday at 2		Nichols
	1	Thursday at 8		Nichols
	1	Thursday at 10		Nichols
	1	Friday at 11		Nichols

FOR MEN

101—102	1	Tu., Th., at 1		Nichols and all instruc- tors
		Tu., Th., at 2		
		M., W., at 1		
		M., W., at 2		
		M., F., at 2		
		W., F., at 2		
		Tu., Th., at 3		
		M., W., at 3		
		M., F., at 3		
		W., F., at 3		
		Tu., Th., at 4		
		M., W., at 4		
		M., F., at 4		
		W., F., at 4		
107—	2	(Hours to be arranged for corrective work)		St. John, Wilce, Castleman
		Tu., Th., at 3	Ath. House	
—110	2	M., Th., at 11	Ath. House	Wilce
111—	1	Tu., at 4	P. 109	Castleman
—112	1	Tu., at 4	P. 109	Wilce
113—	1	Th., at 4	P. 109	St. John
—120	2	Tu., F., at 10		Nichols
—122	2	L., Th., at 10	Gymnasium	Nichols,
		Lab., Tu., Th., at 5		Cobb
125—	2	Tu., F., at 10		Nichols

FOR WOMEN

100—100	1	Tu., at 11		
131—132	1	2 hours to be arranged		Meyer, Scofield, Ranck
133—134	1	3 hours to be arranged		Meyer
135—136	3	Tu., Th., 9 and 3		Meyer

PHYSICS

Course No.	Hours	Time	Room	Instructor
103—104	4	M., W., F., at 8	Ph. 205	Earhart
		M., W., F., at 8	Ph. 205	Earhart
		Lab., M., 1 to 3	Ph.	
		W., 9 to 11	Ph.	
		W., 1 to 3	Ph.	
105—106	4	F., 1 to 3	Ph.	
		M., W., F., at 10	Ph. 205	Earhart, Blake
		M., W., F., at 3	Ph. 200	Earhart, Blake
		Lab., Tu., 8 to 11		
		Tu., 1 to 4		
109—109	3 Agr.	Th., 1 to 4		
		S., 8 to 11		
		M., W., F., at 8	Ph. 202	Cole
		M., W., F., at 9	Ph. 202	Cole
		M., W., F., at 1	Ph. 202	Cole
111—112	3 Cer.	M., W., F., at 2	Ph. 202	Cole
		(1st Sem.)		
		Tu., Th., at 9; M., 1 to 3	Ph. 205	
		(2nd Sem.)		
		Tu., Th., at 10; Tu., 8 to 10	Ph. 205	
	Civil	(1st Sem. only)		
		Tu., Th., at 9; W., 1 to 3	Ph. 205	
		Tu., Th., at 2; Th., 10 to 12	Ph. 205	
		Tu., Th., at 2; S., 10 to 12	Ph. 205	
		(1st Sem.)		
	Chem.	M., W., at 1	Ph. 205	
		Lab., M., 8 to 10		
		M., 10 to 12		
		Th., 8 to 10		
		(2nd Sem.)		
	Mine	M., 10 to 12		
		Tu., 10 to 12		
		Th., 8 to 5		
		(1st Sem.)		
		Tu., Th., at 9; S., 10 to 12	Ph. 205	
—111	3	(2nd Sem.)		
		Tu., Th., at 10; M., 10 to 12	Ph. 205	
		(1st Sem.)		
		Arch. Engr. M., F., at 11; Tu., 8 to 10	Ph. 205	
		(2nd Sem.)		
113—	6 Mech.	M., W., at 1; Tu., 8 to 10	Ph. 205	
		To be arranged	Ph.	Cole
		L., M., Tu., W., Th., at 9	Ph. 200, 301	All Instruc- tors
		Lab., Th., 1 to 3		
		S., 8 to 10		
		L., M., Tu., W., Th., at 2	Ph. 200, 202	

PHYSICS—Continued

Course No.	Hours	Time	Room	Instructor
		Lab., F., 8 to 10		
		F., 10 to 12		
Elect.		L., M., Tu., W., Th., at 9	Ph. 200, 307	
		Lab., M., 1 to 3		
		Tu., 1 to 3		
		F., 1 to 3		
		L., M., Tu., W., Th., at 2	Ph. 200, 307	
		Lab., Tu., 8 to 10		
		W., 8 to 10		
Gen.		L., M., Tu., W., Th., at 2	Ph. 200, 202	
		Lab., F., 8 to 10		
115—116	2	To be arranged	Ph.	Earhart, Smith, Heil
117—	2 Arch.	Tu., Th., at 2	Ph. 301	All Instruc- tors
—118		M., W., at 1	Ph. 301	
—119	3 Mech.	M., W., F., at 9	Ph. 205	
		M., W., F., at 2	Ph. 200	
—120	2	To be arranged	Ph.	Cole
121—122	3 to 5	M., Tu., 1 to 4	Ph.	Smith
123—124	3 to 5	M., Tu., 1 to 4	Ph.	Smith
—125	5 Civil	L., M., Tu., W., Th., at 10	Ph. 200	
		Lab., Tu., 3 to 5		
		L., M., Tu., W., Th. at 2	Ph. 205	
		Lab., M., 8 to 10		
		L., M., Tu., W., Th., at 2	Ph. 301	
		Lab., S., 10 to 12		
129—	2	Tu., Th., at 10	Ph. 205	
		Tu., Th., at 3	Ph. 205	
—130	6	L., M., Tu., at 11; F., at 9	Ph. 202, 301	
		Lab., M., Tu., 1 to 4		
		L., M., W., F., at 2	Ph. 307	
		Lab., M., Tu., 8 to 11		
		W., Th., 8 to 11		
		F., S., 8 to 11		
		L., M., Tu., F., at 11	Ph. 202	
		Lab., W., Th., 1 to 4		
—132	2	Tu., at 10; Th., 10 to 12	Ph. 202	
		Tu., at 2; Th., 8 to 10	Ph. 202	
		Tu., at 2; Th., 1 to 3	Ph. 202	
		Th., at 2; M., 10 to 12	Ph. 202	
		Th., at 11; F., 1 to 3	Ph. 202	
135—	5 Elec.	Tu., Th., at 1	Ph. 205	Alpheus Smith
		Lab., W., Th., 8 to 11		
		F., S., 8 to 11		
—136	4	To be arranged	Ph.	
137—	3 to 5	To be arranged	Ph.	Alva Smith

PHYSICS—Continued

Course No.	Hours	Time	Room	Instructor
—188	2 Mech.	M., Tu., 1 to 3	Ph.	
		W., Th., 8 to 10	Ph.	
		W., Th., 1 to 3	Ph.	Blake, Heil
		F., S., 8 to 10	Ph.	Smith, Heil
139—140	3 to 5	To be arranged	Ph.	Alva Smith
145—146	1	Tu., at 11	Ph. 205	Cole
147—148	3	To be arranged	Ph.	
169—170	2	To be arranged	Ph.	
201—202	3 to 5	To be arranged	Ph.	
207—208		To be arranged	Ph.	
211—212		To be arranged	Ph.	
215—216		To be arranged	Ph.	

PHYSIOLOGY, PHYSIOLOGICAL CHEMISTRY AND
PHARMACOLOGY

101—102	3	M., W., F., at 8	Bio. 200	All Instructors
		Tu., Th., S., at 8	Bio. 200	
		M., W., F., at 9	Bio. 200	
		Tu., Th., S., at 9	Bio. 200	
		M., W., F., at 10	Bio. 200	
		M., W., F., at 1	Bio. 200	
		M., W., F., at 1	Bio. 300	
		M., W., F., at 2	Bio. 200	
		M., W., F., at 3	Bio. 200	
—106	4	Tu., Th., at 1	Bio. 201-8	Bleile, Seymour, Durrant
		Lab., Tu., Th., 2 to 4		
107—	3	M., W., F., at 9	Bio. 101	
109—110	3	To be arranged	Bio.	Bleile, Seymour, Durrant
111—112	5	To be arranged	Bio.	Bleile, Seymour, Durrant
114—	4	Tu., Th., at 1	Bio. 100	Bleile
		Lab., Tu., Th., 2 to 4	Bio.	
115—	3	M., F., at 11	Bio. 200	Durrant
		Lab. to be arranged	Bio.	
—118	3	M., F., at 11	Bio. 200	
		Lab. to be arranged		
119—120	3	M., W., F., at 2	Bio. 100	Bleile
121—122	5	To be arranged	Bio.	Brooks
123—	4	To be arranged	Bio.	Brooks, Seymour
—130	4	To be arranged	Bio.	McPeck
—132	3	For Pre-Medica		

PHYSIOLOGY, PHYSIOLOGICAL CHEMISTRY AND PHARMACOLOGY—Continued

Course No.	Hours	Time	Room	Instructor
		M., W., F., at 1	Bio. 101	Bleile
		M., W., F., at 3	Bio. 101	
		Tu., Th., S., at 9	Bio. 101	
187—188	1	Tu., 10 to 12	Bio.	
201—202	3	To be arranged	Bio.	Bleile
208—204	5 to 10	To be arranged	Bio.	

POLITICAL SCIENCE

101—102	3	L., Tu., Th., at 9	H. F. 206	Spencer, Coker
		M., W., at 2	H. F. 206	Spencer, Coker
		Q., F., at 11, 1, 2, 3	Ha. 205	Spencer, Coker
		S., at 8, 9, 10, 11	Ha. 207	Spencer, Coker
—101	3	M., W., F., at 3	Ha. 101	Coker
106—	3	M., W., F., at 10	Ha. 207	Spencer
118—114	2	Tu., Th., at 3	Ha. 207	Spencer
115—116	2	Tu., Th., at 10	Ha. 207	Coker
117—118	2	Tu., 4 to 6	Ha. 207	Coker
125—126	3	M., W., F., at 8	Ha. 207	Spencer
—130	3	M., W., F., at 10	Ha. 207	Coker
181—132	2	Tu., Th., at 9	Ha. 207	Coker
201—202	2	M., 4 to 6	Ha. 207	Spencer

PRINCIPLES AND PRACTICE OF EDUCATION

101—	3	M., W., F., at 10	Ha. 208	Clifton
		M., W., F., at 2	Ha. 208	Clifton
—101	3	M., W., F., at 2	Ha. 208	
104—104	3	Two consecutive hours daily; to be arranged		
107—107	3	M., W., F., at 3	Ha. 207	Clifton
111—112	3	To be arranged		

PSYCHOLOGY

101—102	3	M., W., F., at 8	U. 401	All Instructors
		M., W., F., at 8	U. 412	
		Tu., Th., S., at 8	U. 400	
		M., W., F., at 9	U. 412	
		M., W., F., at 9	U. 406	
		Tu., Th., S., at 9	U. 400	
		M., W., F., at 10	U. 400	
		M., W., F., at 10	U. 401	

PSYCHOLOGY—Continued

Course No.	Hours	Time	Room	Instructor
		M., W., F., at 10	U. 406	
		Tu., Th., S., at 10 (Pre-Med.)	U. 400	
		M., Tu., F., at 11 (Pre-Med.)	U. 400	
		M., W., F., at 12	U. 400	
		M., W., F., at 1	U. 400	
		M., W., F., at 1	U. 412	
		M., W., F., at 1	U. 406	
		M., W., F., at 2	U. 406	
		M., W., F., at 2 (Pre-Med.)	U. 412	
		M., W., F., at 2	U. 400	
		M., W., F., at 3	U. 406	
		M., W., F., at 3	U. 401	
		M., W., F., at 4	U. 412	
102—101	3	M., W., F., at 9	U. 400	
		M., W., F., at 3	U. 400	
		M., W., F., at 3	U. 412	
103—104	3	Tu., Th., at 9	U. 415	Weiss
		Lab., W., 1 to 3		
107—108	2	M., F., at 11	U. 401	Pintner
		Tu., Th., at 9	U. 412	Coy
		Tu., Th., at 10	U. 406	Coy
		Tu., Th., at 4	U. 401	Coy
108—107	2	Tu., Th., at 3	U. 401	Coy
111—112	3	Tu., at 1	U. 415	Weiss
		Lab., Tu., 2 to 4; Th., 1 to 3		
—114	2	Tu., Th., at 10	U. 412	Burt
115—116	2	Tu., Th., at 10	U. 401	Rogers
118—	2	Tu., Th., at 10	U. 415	Weiss
119—	2	Tu., Th., at 10	U. 412	Burt
121—122	4	M., W., F., at 9; S., 9 to 11	U. 401	Bridges,
				Pintner
—124	2	Tu., Th., at 9	U. 406	Bridges
125—126	3	M., W., F., at 10	U. 412	Arps
—127	2	M., F., at 11	U. 406	Burt
128—	2	M., F., at 11	U. 406	Crane
129—	2	M., F., at 11	U. 412	Arps, Culler
131—	2	Tu., Th., 3 to 5	U. 406	Crane
133—134	3	M., W., F., 1 to 3	U. 408	Pintner
—138	2	M., F., at 11	U. 412	Arps, Culler
139—140	2	To be arranged	U. 401	Burt
141—142	2 to 4	To be arranged		
147—148	1 or 2	To be arranged	U. 408	Pintner
149—150	2	Tu., Th., at 1	U. 406	Crane
151—152	2	Tu., Th., at 2	U. 406	Crane
201—202	3 or more	To be arranged		
203—204	2	M., 7 to 9 P. M.	L. 309	Arps,
				Bridges
205—206	1	M., at 3	U. 415	Weiss,
				Pintner

PUBLIC HEALTH AND SANITATION

PUBLIC HEALTH

Course No.	Hours	Time	Room	Instructor
101—	2	To be arranged		McC Campbell
103—104	2	To be arranged		
105—106	2	To be arranged		
107—108	3	To be arranged		
—110	2	To be arranged		McC Campbell
—112	3	Tu., Th., 8 to 9:30	Med. 400	Hayhurst
113—	2	Tu., Th., at 11	Bio. 101	Hayhurst
115—	2	M., at 2; Tu., at 8	Med. 312	McC Campbell
121—	2	Tu., Th., at 10	Bio. 101	Hayhurst
—121	2	Tu., Th., at 11	Bio. 200	Hayhurst
—122	2	Tu., Th., at 10	Bio. 200	Hayhurst
—124	2	To be arranged		Hayhurst
201—202	3	To be arranged		Hayhurst
—204	2	To be arranged		McC Campbell
205—	2	To be arranged		
207—208	2	To be arranged		
209—210	3	To be arranged		McC Campbell
211—212	3	To be arranged		Van Buskirk
213—214	3	To be arranged		Van Buskirk
—216	1	To be arranged		McC Campbell

SCIENCE NURSING

—106	2	To be arranged
—110	2	To be arranged
111—	2	To be arranged
113—	2	To be arranged
115—	1	To be arranged
117—	1	To be arranged
119—	10	To be arranged
—122	2	To be arranged
—124	2	To be arranged
125—	1	To be arranged
127—	1	To be arranged
129—	2	To be arranged
131—	2	To be arranged
133—	2	To be arranged
135—	1	To be arranged
137—	1	To be arranged
139—	6	To be arranged

PUBLIC SPEAKING

101—102	2	Tu., Th., at 8	Ph. 304	Ketcham
		Tu., Th., at 8	Ph. 302	Wiley
		Tu., Th., at 10	Ph. 304	Ketcham
		Tu., Th., at 10	Li. 307	Wiley
		M., W., at 1	Ph. 304	Wiley

PUBLIC SPEAKING—Continued

Course No.	Hours	Time	Room	Instructor
		Tu., Th., at 1	Ph. 304	Ketcham
		Tu., Th., at 1	Ph. 302	Wiley
		Tu., Th., at 2	Ph. 302	Wiley
101—	2	Tu., Th., at 9	Ph. 302	Wiley
107—108	3	M., at 3; W., 3 to 5	Ph. 304	Ketcham
—110	2	To be arranged		Ketcham
—114	2	M., W., at 10	Ph. 302	Wiley
125—126	2	Tu., Th., at 9	Ph. 304	Ketcham
151—152	2	Tu., Th., at 2	Ph. 304	Ketcham

ROMANCE LANGUAGES

FRENCH

101—102	4	M., W., F., S., at 8	Ha. 200, 208	All Instructors
		M., W., F., S., at 8	Ha. 106	
		M., W., F., S., at 9	Ha. 200, Ha. 211	
		M., W., F., S., at 9	H. F. 203	
		M., W., F., S., at 10	Ha. 211, H. F. 108	
		M., W., F., S., at 10	H. F. 204	
		M., Tu., F., S., at 11	Ha. 212	
		M., Tu., W., Th., at 12	Ha. 211	
		M., Tu., W., Th., at 1	Ha. 211, H. F. 107	
		M., Tu., W., Th., at 1	Ha. 106	
		M., Tu., W., Th., at 2	Ha. 211, H. F. 204	
		M., Tu., W., Th., at 2	Ha. 106	
		M., Tu., W., Th., at 3	Ha. 211, H. F. 204	
		M., Tu., W., Th., at 3	Ha. 106	
		M., Tu., W., Th., at 4	Ha. 211	
		M., Tu., W., Th., at 4	Ha. 106	
—101	4	M., Tu., W., Th., at 3	Ha. 210	
102—103	4	M., Tu., W., Th., at 3	Ha. 200	All Instructors
		M., W., F., S., at 10	Ha. 106	
103—104	4	M., W., F., S., at 8	Ha. 205, H. F. 107	
		M., W., F., S., at 9	Ha. 205, H. F. 108	
		M., W., F., S., at 10	H. F. 203, H. E. 321	
		M., Tu., W., Th., at 1	Ha. 205, H. F. 108	
		M., Tu., W., Th., at 2	H. F. 113	
		M., Tu., W., Th., at 3	Ha. 205, H. F. 203	
		M., Tu., W., Th., at 4	Ha. 205	Rockwood Rockwood Hacker Hacker
104—	4	M., Tu., W., Th., at 3	H. F. 108	
—106	4	M., W., F., S., at 10	Ha. 205	
109—110	3	M., W., F., at 9	Ha. 208	
		M., Th., F., at 11	Ha. 208	
111—112	2	Tu., Th., at 10	Ha. 208	Hacker
113—	2	Tu., Th., at 11	Ha. 200	
119—120	2	W., 3 to 5	Ha. 215	

ROMANCE LANGUAGES—Continued

Course No.	Hours	Time	Room	Instructor
—122	2	W., 2 to 4	Ha. 216	Bowen
123—124	2	Tu., Th., at 9	Ha. 200	Hacker
125—126	2	Tu., Th., at 9	Ha. 205	Rockwood
131—132	2	Tu., Th., at 9	Ha. 208	
		Tu., Th., at 2	Ha. 207	

ITALIAN

101—102	4	M., W., F., S., at 10	Ha. 216	Williams
103—104	2	Tu., Th., at 2	Ha. 216	Williams

SPANISH

101—102	4	M., W., F., S., at 8	Ha.210, H.F.108	All Instruc- tors
		M., W., F., S., at 8	H. F. 203	
		M., W., F., S., at 9	Ha.210, H.F.204	
		M., W., F., S., at 9	H. F. 107	
		M., W., F., S., at 10	Ha. 210	
		M., W., F., S., at 10	H. F. 107	
		M., Tu., F., S., at 11	Ha. 210	
		M., Tu., W., Th., at 12	Ha. 210	
		M., Tu., W., Th., at 1	Ha.210, H.F.204	
		M., Tu., W., Th., at 1	Ha. 200	
		M., Tu., W., Th., at 2	Ha. 205, Lo. 107	
		M., Tu., W., Th., at 2	H. F. 107	
		M., Tu., W., Th., at 3	Ha.210, H.F.107	
		M., Tu., W., Th., at 4	Ha. 210	
—101	4	M., Tu., W., Th., at 1	Ha. 208	
102—103	4	M., W., F., S., at 9	Ha. 212	
		M., Tu., W., Th., at 2	Ha. 212	
103—104	4	M., W., F., S., at 10	Ha. 212, Br. 1	
		M., Tu., W., Th., at 1	Ha. 212, H.F. 203	
		M., Tu., W., Th., at 4	Ha. 212	
103—110	4	M., W., F., S., at 8	Ha. 212, H.F. 204	
		M., Tu., W., Th., at 2	H. F. 203	
105—106	3	M., Th., F., at 11	Ha. 207	Ingraham
107—108	2	Tu., Th., at 1	Ha. 207	Ingraham
111—	2	Tu., Th., at 3	Ha. 208	Ingraham
113—114	3	M., W., F., at 4	Ha. 216	Gutierrez

GRADUATE COURSES

Romance Languages

205—206	2	W., 3 to 5	L. 311	Havens
209—210	2 to 3	F., 2 to 4	L. 311	Ingraham
211—212	2	To be arranged		Ingraham
213—	2	To be arranged		Hamilton
217—218	2	Tu., 3 to 5	L. 311	Havens

SCHOOL ADMINISTRATION

Course No.	Hours	Time	Room	Instructor
101—101	3	M., W., F., at 9	Ha. 101	Brown
		M., W., F., at 4	Ha. 200	McCracken
103—104	2	Tu., Th., at 2	Ha. 208	McCracken
105—105	2	S., 10 to 12	Ha. 208	Brown
111—112	3	M., W., F., at 3	Ha. 208	Brown
113—114	3	M., W., F., at 2	Ha. 101	McCracken
115—	2	Tu., Th., at 3	Ha. 208	Brown
—116	3	M., W., F., at 10	Ha. 200	Brown
117—118	2	S., 10 to 12	Ha. 200	McCracken, Brown
—122	3	M., W., F., at 4	Ha. 208	Brown
133—134	3	M., Th., F., at 2	Ha. 200	Brown
201—202	2 to 5	To be arranged		Brown, McCracken

SHOPWORK

101—103	2	M., at 10; F., 1 to 4	S.	Denman
		M., at 2; M., 8 to 11	S.	Senn,
		M., at 3; Tu., 8 to 11	S.	Foust,
		M., at 2; W., 8 to 11	S.	Wright
		Tu., at 8; Tu., 1 to 4	S.	
101—	2	Th., at 3; Th., 8 to 11	S.	
—101	2	W., at 3; W., 8 to 11	S.	
103—101	2	M., at 10; F., 1 to 4	S.	Foust,
		M., at 3; Tu., 8 to 11	S.	Wright,
		W., at 10; S., 8 to 11	S.	Denman,
		F., at 9; Tu., 1 to 4	S.	Senn
		F., at 1; M., 8 to 11	S.	
103—	2	Th., at 1; W., 8 to 11	S.	
—103	2	M., at 10;; W., 1 to 4	S.	
105—	2	Tu., at 8; Tu., 1 to 5	S.	Breckur
		Tu., at 8; W., 1 to 5	S.	
		Th., at 1; S., 8 to 12	S.	
		F., at 2; M., 8 to 12	S.	
—105	2	M., 1 to 4; Tu., 1 to 3	S.	
		F., at 1;; S., 8 to 12	S.	
107—	2	M., 8 to 10; Tu., 8 to 11	S.	Wright
		M., 1 to 3; Tu., 1 to 4	S.	
		W., 8 to 10; Th., 8 to 11	S.	
		W., 1 to 3; S., 8 to 11	S.	
—107	2	W., 1 to 4; Th., 1 to 4	S.	Wright
109—109	2	M., 1 to 4; Tu., 1 to 3	S.	Beem
		W., 1 to 3; Th., 1 to 4	S.	
		F., 8 to 10; S., 8 to 11	S.	Beem
—109	2	M., 8 to 10; Tu., 8 to 11	S.	Beem
111—	1	Tu., 8 to 11	S.	
		W., 8 to 11	S.	Beem

SHOPWORK—Continued

Course No.	Hours	Time	Room	Instructor
111—111	1	Th., 1 to 4	S.	
		F., 1 to 4	S.	Beem
115—	2	M., 1 to 3; Tu., 1 to 4	S.	Foust,
115—115	2	W., 1 to 3; Th., 1 to 4	S.	Wright
—115	2	W., 8 to 10; Th., 8 to 11	S.	
—118	2	To be arranged	S.	Foust,
				Wright
119—	3	M., Tu., 8 to 11	S.	Wright
		W., Th., 8 to 11	S.	Wright
		F., 1 to 4; S., 9 to 12	S.	Wright
—119	3	M., Tu., 8 to 11	S.	Wright
		W., Th., 8 to 11	S.	
121—	3	M., Tu., 1 to 4	S.	Knight
				Wright
		W., Th., 1 to 4	S.	Knight
				Wright
—121	3	M., Tu., 1 to 4	S.	Knight
				Wright
		W., Th., 1 to 4	S.	Knight
				Wright
		F., S., 8 to 11	S.	Knight
				Wright
123—	2	To be arranged	S.	Knight
				Wright
125—125	2	To be arranged	S.	Knight
				Wright
127—127	3	To be arranged	S.	Knight
201—202	5 to 10	To be arranged	S.	Knight

For Short Courses Only

51—51	2	M., at 1; W., 8 to 11	S.
		F., at 11; F., 8 to 11	S.
		W., at 1; W., 2 to 5	S.
		M., at 1; M., 2 to 5	S.
52—52	2	M., at 1; W., 8 to 11	S.
		F., at 11; F., 8 to 11	S.
		W., at 1; W., 2 to 5	S.
		M., at 1; M., 2 to 5	S.

SURVEY OF EDUCATION

1 To be arranged

The Dean

ZOOLOGY AND ENTOMOLOGY

ZOOLOGY

Course No.	Hours	Time	Room	Instructor
101—102	3	L., Tu., Th., at 8	B. Z. 109, 209	All Instruc- tors
		Tu., Th., at 9	B. Z. 109, 209	
		Tu., Th., at 10	B. Z. 109, 209	
		Tu., Th., at 1	B. Z. 109, 209	
		Tu., Th., at 2	B. Z. 109, 209	
		Tu., Th., at 3	B. Z. 109, 209	
		Lab., M., 1 to 3	B. Z. 65, 69	
		W., 8 to 10	B. Z. 65, 69	
		W., 1 to 3	B. Z. 65, 69	
		Th., 8 to 10		
		Th., 1 to 3		
		F., 8 to 10	B. Z. 65, 69	
		F., 1 to 3	B. Z. 65, 69	
		S., 8 to 10		
		Pre-Medical and Dentistry		
		M., W., at 10	B. Z. 100	
		M., 8 to 10	B. Z. 65, 69	
		M., at 9; W., at 10	B. Z. 100	
		M., 10 to 12	B. Z. 65, 69	
—101	3	M., W., at 2; M., 8 to 10	B. Z. 100, 65	Barrows Barrows Krecker
115—	3	M., W., F., at 10	B. Z. 208	
—115	3	M., W., F., at 10	B. Z. 100	
—118	3	W., F., at 8; F., 1 to 3	B. Z. 211	
121—122	3	L., Tu., at 1	B. Z. 111	Kostir
		Lab., Tu., 2 to 4; Th., 1 to 3		
123—	2	To be arranged	B. Z.	Kostir
—124	2	To be arranged	B. Z.	Osburn Kostir
129—	3	M., Th., at 11	B. Z. 209	Barrows
—130	3	M., Th., at 11	B. Z. 209	Barrows
131—132	3	M., Th., F., at 11	B. Z. 109	Osburn
139—140	2	M., at 10; Tu., 1 to 4	B. Z.	Hine
141—142	3 to 5	To be arranged	B. Z.	
145—	3	To be arranged	B. Z.	Barrows
159—	3	L., W., F., at 8	B. Z. 209	Krecker
		Lab., F., 1 to 4		
201—202	1	To be arranged	B. Z.	Osburn
223—224	3 to 5	To be arranged	B. Z.	Osburn
241—242	5 to 10	To be arranged	B. Z.	
247—248	5	To be arranged	B. Z.	Osburn

ENTOMOLOGY

107—107	3	L., M., W., at 8	B. Z. 109	Metcalf
		M., W., at 1	B. Z. 209	Metcalf
		Lab., Tu., 8 to 10	B. Z. 65, 69	Metcalf

ZOOLOGY AND ENTOMOLOGY—Continued

Course No.	Hours	Time	Room	Instructor
		Tu., 1 to 3	B. Z. 65, 69	Metcalf
—112	3	Tu., Th., at 8	B. Z. 211	Hine
		Lab., Th., 1 to 4	B. Z.	
		S., 8 to 11		
113—114	4	Tu., Th., at 10	B. Z.	Kennedy
		Lab., Tu., Th., 2 to 5	B. Z. 107	
137—138	3 to 5	M., W., at 10	B. Z.	Metcalf
		Lab., M., W., F., 1 to 4		
141—142	3 to 5	To be arranged	B. Z.	
147—	2	Tu., Th., at 10	B. Z. 211	Hine
—148	2	M., W., at 9	B. Z.	Osburn
149—150	3 to 5	M., F., at 11	B. Z. 211	Metcalf
		Lab., F., 8 to 11		
151—152	3	Th., at 11	B. Z. 211	Metcalf
		Lab., Tu., Th., 1 to 4		
155—156	3	M., W., F., at 9	B. Z. 211	Hine
—162	4	M., F., at 11	B. Z.	
		Lab. to be arranged		
201—202	1	To be arranged	B. Z.	Osburn
241—242	5 to 10	To be arranged	B. Z.	

For Short Courses Only

51— 52	4	M., W., Th., F., at 2	B. Z. 211	Hine
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